

**GROUNDWATER INVESTIGATION WORKPLAN  
FORMER MONDO CHROME  
4933 FIRESTONE BOULEVARD  
SOUTH GATE, CALIFORNIA  
SCP No. 760, SITE ID No. 2043G00**

**Prepared for:**

**TW Tedesco Properties, L.P.  
c/o Tom Tedesco  
75-907 Via Cortona  
Indian Wells CA 92210**

**and**

**Sharon Ann Tedesco Trust  
Tedesco Marital Trust  
P.O. Box 4810  
Rolling Hills Estates, CA 92704**

**Prepared by:**

**FREY Environmental, Inc.  
2817A Lafayette Avenue  
Newport Beach, California 92663-3715  
(949) 723-1645  
freyinc@freyinc.com**

**Project No.: 172-01**

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## **1.0 INTRODUCTION**

This workplan has been prepared by FREY Environmental, Inc. (FREY) for groundwater investigation activities at 4933 Firestone Boulevard in South Gate, California (Site) (Figures 1 and 2). This workplan was prepared in response to a Regional Water Quality Control Board (RWQCB) letter dated January 26, 2011. A copy of the January 26, 2011 letter is presented in Appendix A.

## **2.0 SITE DESCRIPTION**

### **2.1 SURFACE CONDITIONS**

The Site is located on the north side of Firestone Boulevard approximately 300 feet to the east of the intersection of Atlantic Boulevard in South Gate, California. The Site consists of one, rectangular shaped unit in a single story commercial building. Site dimensions are approximately 20 feet from east to west and approximately 100 feet from north to south. The Site has a concrete floor approximately 6-inches thick. The Site shares a common wall with a printer on the east and a clothing manufacturer on the west. A sidewalk and Firestone Boulevard border the Site on the south and Mason Street borders the Site on the north.

### **2.2 REGIONAL GEOLOGY AND HYDROGEOLOGY**

The Site is located within the Central Basin Pressure Area of the Downey Plain which is a subgroup of the Coastal Plain of Los Angeles County. The Downey Plain is a depositional feature consisting of alluvial fans from the Los Angeles River and Rio Hondo-San Gabriel River Systems (DWR, 1961).

The Central Basin Pressure Area is characterized by the presence of many aquicludes, most notably the Bellflower aquiclude consists of low permeability silts and clays that separate near surface water from the deeper water bearing zones. The Bellflower aquiclude is estimated to be approximately 65 feet beneath the Site and have a thickness of approximately 60 feet in this area (DWR, 1961).

The Gaspar aquifer of the Lakewood Formation is the water bearing unit which is located beneath the Bellflower aquiclude beneath the Site. The Lakewood Formation has several water bearing units including the Artesia, Exposition, Gage and Gardena aquifers. The San Pedro Formation underlies the Lakewood Formation and has several water bearing units including the Hollydale, Jefferson, Lynwood, Silverado and Sunnyside aquifers (DWR, 1961).

### **2.3 NEAREST GROUNDWATER SUPPLY WELL**

The City of South Gate maintains groundwater production well #7 located approximately 400 feet north of the Site at the termination of Nevill Avenue. Well #7 is currently shutdown due to concentrations of hexavalent chromium. Well #7 was drilled to a final depth of 863 feet bgs in 1935 and is perforated between 500 and 600 feet bgs (South Gate, 2000).

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### 3.0 BACKGROUND

#### 3.1 SITE INSPECTION AND MATERIAL REMOVAL

A Site walk was conducted on November 2, 1990 by Chem Tech Systems, Hunt Management Co, and Applied Geosciences. The Site was observed to be vacant and described as a one story building with approximately 1,800 square feet of floor space. The walls are of concrete block construction with a concrete floor. A small reception/office area is located in the southern-most portion of the building with the remainder of the building used as work areas. The buffing area, restroom and storage areas are located immediately north of the office/reception area and extend approximately 50 feet from the front of the building. The northern half of the Site consisted of an electroplating area. The electroplating area contained several process tanks with a berm constructed of cinder blocks, various drums and other containers and a clarifier (Applied, 1991).

Chem Tech developed an inventory of the potentially hazardous materials and wastes observed on November 2, 1990. The inventoried wastes consisted of acidic nickel solution, alkaline metal solution, acid, chrome solution, nickel solution, alkaline solution with cyanide, dry cyanide compound, sludge, flammable liquid, nickel/chrome sludge, and solidified alkaline cleaner. Quantities ranged from 6.5 pound drums to 3,2000 gallons. Chem Tech reportedly removed all listed items in December of 1991 (Applied, 1992a).

#### 3.2 INITIAL SUBSURFACE SOIL INVESTIGATION

On April 23, 1992, Applied Geosciences hand augered soil borings HB1 through HB7 to depths between 10 and 15 feet below the ground surface (bgs) in the locations shown on Figure 3. Soil samples were collected from depths of 2, 5, 10 and 15 feet bgs from each boring. Soil samples were selectively analyzed for volatile organic compounds (VOCs) and selected metals (Applied, 1992a).

Sixteen soil samples were analyzed for VOCs. Three soil samples did not contain PCE. PCE was detected in 13 of the 16 soil samples at concentrations ranging from 6 micrograms per kilogram (ug/kg) to 41,000 ug/kg. PCE was reportedly the only detected VOC (Table 1).

Concentrations of total chromium ranged from 11.5 mg/kg to 235 mg/kg. Soluble chromium concentrations ranged from 2.9 mg/L to 10.7 mg/L. Cadmium concentrations ranged from 0.06 mg/kg to 43.1 mg/kg (Applied, 1992a). Metal concentrations have been summarized in Table 2.

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FREY conducted a short term vapor extraction test on July 16, 1996. FREY extracted vapors at flow rates up to 160 cubic feet per minute. The maximum radius of influence calculated was 80 feet. PCE and TCE were present in vapor samples at concentrations up to 32,800 parts per million per volume (ppmv) and 26,000 ppmv, respectively. Soil vapor sample data is summarized in Table 3 (FREY, 1996).

### **3.5 GROUNDWATER MONITORING WELL INSTALLATION**

FREY drilled and installed groundwater monitoring wells MW1, MW2 and MW3 on December 2, 1998 in the locations shown on Figures 2 and 3. Soil samples were collected at five foot depth intervals from each boring, however, only those samples from MW1 were submitted for laboratory analyses (FREY, 1999).

Groundwater monitoring wells MW1, MW2 and MW3 were constructed of 2-inch diameter PVC blank casing and screen. The screened interval of each well extends between 30 and 55 feet bgs. Concentrations of PCE and TCE were detected in soil samples collected from well MW1. Concentrations of PCE decreased with depth from 0.515 mg/kg in the sample collected from 15 feet bgs to 0.010 mg/kg in the sample collected from 35 feet bgs (FREY, 1999).

### **3.6 ADDITIONAL SOIL AND GROUNDWATER INVESTIGATION**

On June 28 and 29, 2001, FREY drilled and sampled three soil borings (B12, B13 and B15) to final depths of 50 feet bgs with a direct push drill rig (Figure 4). Soil borings B12, B13 and B15 were drilled at approximate distances of 100 feet to the west, north and east of groundwater monitoring well MW1 in order to assess the lateral extent of groundwater containing VOCs. Groundwater samples were collected from each boring at approximate depths of 40 feet bgs and analyzed for VOCs. TCE was the primary VOC detected in groundwater samples and ranged from 180 ug/L to 453 ug/L. PCE concentrations ranged from non detect (detection limit of 10 ug/L) to 258 ug/L (Table 4) (FREY, 2001).

In addition, FREY drilled soil borings B17 and B18 inside the Site building on June 28 and 29, 2001 (Figures 3 and 4). Soil borings B17 and B18 were drilled to final depths of 40 and 48 feet bgs. Boring B17 was drilled adjacent to the sample box location on the former clarifier. B18 was drilled adjacent to previously drilled boring HB3. Soil samples collected from HB3 contained the greatest concentrations of chromium.

Total chromium was detected in each soil sample analyzed from B17 and B18 but in concentrations well below the CHHSL for industrial soils. Hexavalent chromium was detected in two of the 10 soil samples analyzed from B17 and B18 but in concentrations less than the CHHSL for industrial soils (FREY, 2001). Metals concentrations in soil have been summarized in Table 2.

On August 7, 2001, boring B16 was drilled and sampled to a final depth of 100 feet bgs to evaluate the presence of total chromium, hexavalent chromium, cadmium, total organic carbon, and VOCs in soil and groundwater (Figure 4). VOCs were not detected in soil samples collected from B16 with the exception of the 60 and 65 foot samples which contained TCE at concentrations up to 0.024 mg/kg. Total chromium and hexavalent chromium were detected in soil samples analyzed from B16 but in concentrations below the CHHSLs for industrial soils. Groundwater samples collected from B16 at depths of 70 and 100 feet bgs contained TCE at concentrations of 710 ug/L and 290 ug/L, respectively. PCE was detected at concentrations of 82 ug/L and 44 ug/L in the 70 foot and 100 foot, respectively, in groundwater samples from B16 (FREY, 2001).

### **3.7 GROUNDWATER MONITORING WELL SAMPLING**

Groundwater monitoring wells MW1, MW2 and MW3 were sampled on a quarterly basis between December 7, 1998 and December 13, 2001, semi annually in 2002 and 2003, and once during 2008 and 2011.

Groundwater samples collected from well MW1, MW2 and MW3 have consistently contained concentrations of PCE, TCE, cis 1,2-DCE and infrequently contained concentrations of trans 1,2-DCE, vinyl chloride, 1,2-DCA, and cadmium and nickel. TCE and PCE are the primary contaminants of concern in the groundwater samples collected from MW1, MW2 and MW3. TCE and PCE have been detected in concentrations up to 1,000 ug/L and 707 ug/L, respectively, in groundwater samples collected from MW1. Concentrations of TCE and PCE in groundwater samples collected from MW2 and MW3 have been significantly less than in MW1 (FREY, 2011a).

The depth to groundwater ranged from 40 to 41 feet bgs between 1998 and 2002 but has dropped to depths between 47 and 48 feet bgs in the first quarter of 2011. Groundwater was calculated to flow toward the west in 1998 and toward the southwest or south in 1999. Groundwater has flowed toward the north or northwest since the first quarter of 2000 (FREY, 2011a). Depth to groundwater and groundwater sample data have been summarized in Tables 5 and 6.

### **3.8 PHASE I ENVIRONMENTAL SITE ASSESSMENT**

FREY prepared Phase I Environmental Site Assessment (ESA) dated March 31, 2011. The Site was originally developed in 1945 and has been owned by the Tedesco family or Tedesco Leasing since that time. The Site has been occupied by various industrial lessees since at least 1951. Various plating company's leased the Site between 1981 and 1990. In 1990, an unauthorized release of a "dark brown liquid" occurred from the north side of the building, entered Mason Street and flowed east to a storm drain. The Los Angeles County Fire Department reported on an inspection form that they observed a leaking plating tank and leaking drums during their inspection on July 13, 1990. It was also reported that 2,000 gallons of liquids were removed as part of the Site clean up. The Site remained vacant from the second half of 1990 to 1997. International Torques has occupied the Site since 2001 (FREY, 2011b).

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#### 4.0 EVALUATION OF GROUNDWATER CONDITIONS

Groundwater has been primarily impacted by TCE and to a lesser extent by PCE and chromium.

The lateral extent of TCE, PCE and chromium in groundwater has been adequately assessed to the south of the former clarifier (the suspected source area) but has not been adequately assessed to the north, east or west. In addition, the vertical extent of TCE, PCE and chromium has not been adequately assessed. The maximum contaminant levels (MCLs) for TCE, PCE and chromium are 5 ug/L, 5 ug/L and 50 ug/L, respectively.

Groundwater monitoring wells MW2 and MW3 are located approximately 120 feet southwest and southeast, respectively, of the former clarifier. During the first quarter of 2011, TCE, PCE and chromium were detected at maximum concentrations of 27 ug/L, 9.8 ug/L and 6.41 ug/L, respectively, in groundwater samples collected from MW2 and MW3. Based on the groundwater sample data from wells MW2 and MW3, the lateral extent of TCE, PCE and chromium has been adequately assessed to the south of the former clarifier.

Groundwater grab samples collected from first encountered groundwater in borings B12, B13 and B15, drilled approximately 100 feet west, north and east from the former clarifier, respectively, contained TCE at concentrations ranging from 180 ug/L to 453 ug/L. PCE was detected at concentrations of 16.9 ug/L and 258 ug/L in the grab samples collected from B12 and B15, respectively, but was not detected in the B13 grab sample. Chromium was detected at a concentration of 430 ug/L in the B12 grab sample. Grab samples from B13 and B15 were not analyzed for chromium due to insufficient water recovery.

Boring B16 was drilled approximately 12 feet north of the former clarifier. Groundwater grab samples collected from depths of 70 and 100 feet bgs from boring B16 contained TCE at concentrations of 710 ug/L and 290 ug/L, respectively. PCE was detected at concentrations of 82 ug/L and 44 ug/L, respectively, from the B16 grab samples collected from 70 and 100 feet bgs. B16 groundwater samples were not analyzed for chromium due to insufficient groundwater recovery. The groundwater grab sample collected from B17 from first groundwater at approximately 40 feet bgs on June 29, 2001 contained chromium at a concentration of 9,270 ug/L. Soil boring B17 was drilled immediately adjacent to the former clarifier.

## **5.0 OBJECTIVES**

The objective of the scope of work proposed below is to assess the lateral and vertical extent of groundwater containing VOCs and chromium.

## **6.0 SCOPE OF WORK**

### **6.1 PRE FIELD ACTIVITIES**

Upon approval of this workplan, FREY will obtain well installation permits from the County of Los Angeles Department of Health Services and encroachment permits from the City of South Gate. FREY will mark the proposed groundwater monitoring well locations and obtain an underground service alert number prior to the conduct of any drilling operations. FREY will notify the RWQCB at least 72 hours prior to the conduct of drilling operations. All field work will be conducted under the general guidelines set forth in the health and safety plan attached in Appendix B. All field activities will be conducted under the supervision of a State of California Professional Geologist.

### **6.2 DRILLING AND SAMPLING OF SOIL BORINGS**

Soil borings MW4, MW5(A, B and C), MW6 and MW7(A and B) are proposed to be drilled at the locations shown on Figure 5. Each boring will be hand excavated to 4 feet bgs to locate and avoid subsurface obstructions and utilities. Soil borings will be drilled to final depths with a truck-mounted drill rig equipped with 8-inch outside diameter hollow stem augers. Soil borings will be drilled to estimated final depths of 60 feet bgs (MW4, MW5A, and MW6), 95 feet bgs (MW5B and MW7B) and 125 feet bgs (MW5C and MW7C). Actual boring depths may be adjusted based on data collected during drilling activities. Soil borings MW4, MW5(A, B and C), MW6, and MW7(B and C) will be converted to groundwater monitoring wells.

During the drilling of MW4, soil samples will not be collected between the ground surface and 40 feet bgs. Soil boring B12 was drilled approximately 100 feet east of proposed boring MW4 was logged to 40 feet bgs. Soil samples will be collected from MW4 at five foot depth intervals between the depths of 45 and 65 feet bgs.

Soil samples will not be collected during the drilling of MW5A and MW5B. Soil samples will be collected from MW5C at five foot depth intervals between the depths of 45 feet and 125 feet bgs. Soil samples will not be collected from MW5C between the ground surface and 40 feet bgs. MW5A, B and C are proposed to be drilled in the approximate location of previously drilled boring B13 which was logged to 40 feet bgs.

Soil samples will not be collected between the ground surface and 40 feet bgs during the drilling of MW6. In 2001, soil boring B15 was drilled approximately 100 feet west of proposed boring MW6 and was logged to 40 feet bgs. Soil samples will be collected from MW6 at five foot depth intervals between the depths of 45 and 65 feet bgs.

MW7B and MW7C are proposed to be located adjacent to previously drilled MW1 and B16. In 1996 and 2001, soil samples were collected and analyzed from MW1 and B16 at approximate five foot depth intervals between 5 feet bgs and 75 feet bgs. A soil sample was collected and analyzed from B16 at a depth of 100 feet bgs. Therefore, soil samples will be collected from MW7C at five foot depth intervals between 105 and 125 feet bgs.

Soil cuttings will be examined in order to characterize soil lithology and moisture and to observe for the presence of VOCs. An organic vapor analyzer (OVA) will be used to screen soil samples and drill cuttings in the field for undifferentiated volatile organic compounds (UVOs) and to follow the guidelines set forth in the health and safety plan.

Soil samples collected as part of drilling activities are not planned to be submitted for chemical laboratory analyses. However, soil samples which register greater than 5 parts per million on the OVA will be sampled in accordance with EPA No. 5035 and analyzed as discussed in Section 5.7.

Sample depths, soil lithologies, OVA readings, and other pertinent information will be recorded on boring logs. Soil cuttings generated during drilling activities will be placed in a roll off bin and will be disposed of at an appropriate recycling facility pending laboratory results. All drilling and soil sample collection procedures will be performed under the direction of a State of California Professional Geologist in accordance with applicable regulations and accepted engineering practice and protocol. Additional drilling procedures are provided in Appendix C.

### **6.3 INSTALLATION OF GROUNDWATER MONITORING WELLS**

Groundwater monitoring wells MW4, MW5(A, B and C), MW6 and MW7(B and C) will be installed in their respective boreholes at the locations shown on Figure 5. Groundwater monitoring wells will be constructed of 2-inch diameter schedule 40 PVC casing and 0.010-inch slotted screen.

The screened interval for groundwater monitoring wells MW4, MW5A, and MW6 is anticipated to extend from approximately 35 to 60 feet bgs and will be encased in screen-washed sand. The screened interval for groundwater monitoring wells MW5B and MW7B is anticipated to extend from approximately 90 to 95 feet bgs and will be encased in screen-washed sand. The screened interval for groundwater monitoring wells MW5C and MW7C is anticipated to extend from approximately 120 to 125 feet bgs and will be encased in screen-washed sand. The depth of the screened interval may be adjusted based upon conditions observed during drilling. Each well will be surged and bailed with the drill rig to settle the sand pack during well construction.

For wells MW4, MW5A, and MW6, approximately 3 feet of wetted bentonite chips will be placed on top of the sandpack. The remainder of the annulus between the well casing and the borehole wall will be backfilled with a bentonite based grout. A traffic rated wellbox set in concrete will encase the surface of wells MW4, MW5A and MW6.

For wells MW5B, MW5C, MW7B and MW7C, bentonite pellets will be placed on top of the sand pack and extend to the approximate groundwater surface (approximately 45 feet bgs). The remainder of the borehole annulus will be backfilled with a bentonite based grout. A traffic rated well box set in concrete will encase the surface of wells MW5B, MW5C, MW7B and MW7C.

Additional well construction details are provided in Appendix C.

#### **6.4 WELL SURVEY**

Newly-installed wells will be surveyed for elevation and location in accordance with Geotracker protocol by a State of California registered land surveyor.

#### **6.5 WELL DEVELOPMENT**

Groundwater monitoring wells MW4, MW5(A, B and C), MW6 and MW7(B and C) will be developed by surging, bailing and pumping no earlier than 48 hours after well installation as described in Appendix C.

#### **6.6 GROUNDWATER MONITORING AND SAMPLING**

Groundwater monitoring wells MW4, MW5(A, B and C), MW6 and MW7(B and C) will be monitored and sampled along with existing wells MW1, MW2 and MW3 during the next scheduled sampling event following well installation. Groundwater monitoring and sampling procedures are included in Appendix C.

#### **6.7 LABORATORY ANALYSES**

Soil samples which register greater than 5 parts per million on the OVA will be analyzed for VOCs (full list) in accordance with EPA Method No. 8260B.

Groundwater samples will be analyzed for VOCs (full list) in general accordance with EPA Method No. 8260B. In addition, groundwater samples will also be analyzed for total chromium in accordance with EPA Method No. 6010B.

## 6.8 DATA EVALUATION AND REPORT

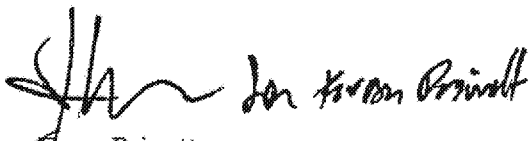
A report documenting well installation and sampling activities will be prepared following the receipt of laboratory results. Field measurements, observations, and chemical analyses of groundwater samples will be evaluated and interpreted in context with the existing on-site soil conditions and the hydrogeological setting.

## 7.0 SCHEDULE

It is estimated that one month will be required to obtain workplan approval from the RWQCB. Encroachment and well installation permits will require three weeks to obtain. Well installation activities will require between 5 and 7 days. Groundwater monitoring wells will be developed no sooner than 48 hours after installation and will be sampled no sooner than 72 hours after development. Laboratory analyses will require 7 days after the date of sample collection. A report of activities will be prepared and submitted approximately eight weeks following receipt of laboratory results. The total time to conduct the scope of work described above is from three to four months.

Should you have any questions regarding this workplan, please contact us at (949) 723-1645.

Sincerely,  
**FREY Environmental, Inc.**



Ivan Privett  
Senior Project Geologist  
PG#7880

## 8.0 REFERENCES

- Applied Geosciences Inc., 1991, Site Assessment and Mitigation Workplan for the Property Located at 4933 Firestone Boulevard, South Gate, California dated April 5, 1991
- \_\_\_\_\_, 1992a, Laboratory Results of a Preliminary Subsurface Investigation for the Property Located at 4933 Firestone Boulevard, South Gate, California dated June 25, 1992
- \_\_\_\_\_, 1992b, Site Characterization of the Former Mondo's Show Chrome Facility in the City of South Gate, California dated November 3, 1992
- Cal-EPA (California Environmental Protection Agency), 2005, Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties, January 2005.
- DWR (Department of Water Resources), 1961, Planned utilization of the ground water basins of the coastal plain of Los Angeles County: State of California Department of Water Resources, Bulletin No. 104, June 1961, 181 p.
- FREY Environmental, Inc. 1996, Limited Subsurface Soil Investigation and Vapor Extraction Test, Former Mondo Chrome Facility, 4933 Firestone Boulevard, South Gate, California dated December 16, 1996.
- \_\_\_\_\_, 1999, Groundwater Monitoring Well Installation and Sampling, Former Mondo Chrome Facility, 4933 Firestone Boulevard, South Gate, California dated January 8, 1999.
- \_\_\_\_\_, 2001, Additional Soil and Groundwater Investigation, Former Mondo Chrome Facility, 4933 Firestone Boulevard, South Gate, California dated November 18, 2001.
- \_\_\_\_\_, 2011a, Groundwater Monitoring Well Sampling, First Quarter 2011, Former Mondo Chrome Facility, 4933 Firestone Boulevard, South Gate, California dated March 13, 2011.
- \_\_\_\_\_, 2011b, Phase I Environmental Site Assessment, Former Mondo Chrome Facility, 4933 Firestone Boulevard, South Gate, California dated March 31, 2011.
- South Gate, 2000, fax from Ron Hernandez dated October 24, 2000

## TABLES

**TABLE 1**  
**CHEMICAL ANALYSES OF SOIL SAMPLES - VOCs**  
**Former Mondo Chrome Facility**  
**4933 Firestone Boulevard**  
**South Gate, California**  
**(soil - milligrams per kilogram)**

Boring Number	Depth (feet bgs)	Date Sampled	PCE	TCE	Cis 1,2-DCE	Methylene Chloride	Toluene
HB-1	2	04/23/1992	0.040	ND<0.005	ND<0.005	ND<0.005	ND<0.005
	5	04/23/1992	0.040	ND<0.005	ND<0.005	ND<0.005	ND<0.005
	10	04/23/1992	0.030	ND<0.005	ND<0.005	ND<0.005	ND<0.005
HB-2	2	04/23/1992	---	---	---	---	---
HB-3	2	04/23/1992	---	---	---	---	---
	5	04/23/1992	---	---	---	---	---
	10	04/23/1992	---	---	---	---	---
HB-4	5	04/23/1992	0.470	ND<0.005	ND<0.005	ND<0.005	ND<0.005
	10	04/23/1992	0.030	ND<0.005	ND<0.005	0.007	ND<0.005
	15	04/23/1992	0.020	ND<0.005	ND<0.005	0.007	ND<0.005
HB-5	2	04/23/1992	0.240	ND<0.005	ND<0.005	0.009	ND<0.005
	5	04/23/1992	41.000	ND<0.005	ND<0.005		ND<0.005
	10	04/23/1992	0.020	ND<0.005	ND<0.005	0.008	ND<0.005
	15	04/23/1992	ND<0.005	ND<0.005	ND<0.005	0.01	ND<0.005
HB-6	1	04/23/1992	0.051	ND<0.005	ND<0.005	0.01	ND<0.005
	5	04/23/1992	0.006	ND<0.005	ND<0.005	0.006	ND<0.005
	10	04/23/1992	0.030	ND<0.005	ND<0.005	0.007	ND<0.005
HB-7	1	04/23/1992	ND<0.005	ND<0.005	ND<0.005	0.006	ND<0.005
	5	04/23/1992	ND<0.005	ND<0.005	ND<0.005	0.007	ND<0.005
	10	04/23/1992	0.008	ND<0.005	ND<0.005	0.007	ND<0.005
HB-8	2	Oct - 1992	---	---	---	---	---
	5	Oct - 1992	---	---	---	---	---
	10	Oct - 1992	---	---	---	---	---
HB-9	2	Oct - 1992	---	---	---	---	---
	5	Oct - 1992	---	---	---	---	---
	10	Oct - 1992	---	---	---	---	---
HB-10	2	Oct - 1992	---	---	---	---	---
	5	Oct - 1992	---	---	---	---	---
	10	Oct - 1992	---	---	---	---	---
HB-11	2	Oct - 1992	0.077	ND<0.001	ND<0.001	ND<0.001	ND<0.001
	5	Oct - 1992	0.004	ND<0.001	ND<0.001	ND<0.001	ND<0.001
	10	Oct - 1992	0.085	0.003	ND<0.001	ND<0.001	ND<0.001
	15	Oct - 1992	0.072	0.003	ND<0.001	ND<0.001	ND<0.001
B-1	2	Oct - 1992	0.010	ND<0.001	ND<0.001	ND<0.001	0.006
	5	Oct - 1992	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001
	10	Oct - 1992	0.030	ND<0.001	ND<0.001	ND<0.001	ND<0.001

**TABLE 1**  
**CHEMICAL ANALYSES OF SOIL SAMPLES - VOCS**  
**Former Mondo Chrome Facility**  
**4933 Firestone Boulevard**  
**South Gate, California**  
**(soil - milligrams per kilogram)**

Boring Number	Depth (feet bgs)	Date Sampled	PCE	TCE	Cis 1,2-DCE	Methylene Chloride	Toluene
B-2	2	Oct - 1992	0.100	ND<0.001	ND<0.001	ND<0.001	0.010
	5	Oct - 1992	0.020	ND<0.001	ND<0.001	ND<0.001	ND<0.001
	10	Oct - 1992	0.140	ND<0.001	ND<0.001	ND<0.001	0.006
	15	Oct - 1992	0.058	ND<0.001	ND<0.001	ND<0.001	0.008
	20	Oct - 1992	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001
B-3	2	Oct - 1992	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001
	5	Oct - 1992	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001
	10	Oct - 1992	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001
B-4	2	Oct - 1992	---	---	---	---	---
	5	Oct - 1992	---	---	---	---	---
B-5	2	Oct - 1992	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001
	5	Oct - 1992	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001
	10	Oct - 1992	0.010	ND<0.001	ND<0.001	ND<0.001	0.008
B-6	2	Oct - 1992	0.057	ND<0.001	ND<0.001	ND<0.001	0.009
	5	Oct - 1992	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001
	10	Oct - 1992	0.077	ND<0.001	ND<0.001	ND<0.001	ND<0.001
B-7	2	Oct - 1992	0.008	ND<0.001	ND<0.001	ND<0.001	ND<0.001
	5	Oct - 1992	0.050	ND<0.001	ND<0.001	ND<0.001	0.008
	10	Oct - 1992	0.150	ND<0.001	ND<0.001	ND<0.001	ND<0.001
	15	Oct - 1992	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001
B-8	2	Oct - 1992	12.000	ND<0.005	ND<0.005	ND<0.005	---
	5	Oct - 1992	ND<0.005	ND<0.005	ND<0.005	ND<0.005	---
	10	Oct - 1992	0.066	ND<0.005	ND<0.005	ND<0.005	---
	15	Oct - 1992	0.360	ND<0.005	ND<0.005	ND<0.005	---
	20	Oct - 1992	---	---	---	---	---
	25	Oct - 1992	---	---	---	---	---
B-9	2	Oct - 1992	3.800	ND<0.005	ND<0.005	ND<0.005	---
	5	Oct - 1992	0.018	ND<0.005	ND<0.005	ND<0.005	---
	10	Oct - 1992	0.036	ND<0.005	ND<0.005	ND<0.005	---
	15	Oct - 1992	0.130	ND<0.005	ND<0.005	ND<0.005	---
B-10	2	Oct - 1992	4.300	ND<0.005	ND<0.005	ND<0.005	---
	5	Oct - 1992	0.180	ND<0.005	ND<0.005	ND<0.005	---
	10	Oct - 1992	0.066	ND<0.005	ND<0.005	ND<0.005	---
	15	Oct - 1992	0.200	ND<0.005	ND<0.005	ND<0.005	---
B-11	2	Oct - 1992	3.000	ND<0.005	ND<0.005	ND<0.005	---
	5	Oct - 1992	2.900	ND<0.005	ND<0.005	ND<0.005	---
	10	Oct - 1992	0.017	ND<0.005	ND<0.005	ND<0.005	---
	15	Oct - 1992	0.480	ND<0.005	ND<0.005	ND<0.005	---
	20	Oct - 1992	0.027	ND<0.005	ND<0.005	ND<0.005	---
	30	Oct - 1992	0.500	ND<0.005	ND<0.005	ND<0.005	---
	40	Oct - 1992	0.003	ND<0.005	ND<0.005	ND<0.005	---

**TABLE 1**  
**CHEMICAL ANALYSES OF SOIL SAMPLES - VOCS**  
**Former Mondo Chrome Facility**  
**4933 Firestone Boulevard**  
**South Gate, California**  
**(soil - milligrams per kilogram)**

Boring Number	Depth (feet bgs)	Date Sampled	PCE	TCE	Cis 1,2-DCE	Methylene Chloride	Toluene
B-12	15	Oct - 1992	0.015	ND<0.005	ND<0.005	ND<0.005	—
	20	Oct - 1992	0.007	ND<0.005	ND<0.005	ND<0.005	—
FB1	1	06/27/1996	—	—	—	—	—
FB2	1	06/27/1996	—	—	—	—	—
FB3	1	06/27/1996	—	—	—	—	—
FB4	1	06/27/1996	—	—	—	—	—
FB5	1	06/27/1996	—	—	—	—	—
VEW1-5	5	06/27/1996	ND<0.005	ND<0.005	ND<0.005	ND<0.005	—
VEW1-15	15	06/27/1996	0.054	ND<0.005	ND<0.005	ND<0.005	—
VEW1-25	25	06/27/1996	0.212	0.013	ND<0.005	ND<0.005	—
VEW1-35	35	06/27/1996	ND<0.005	ND<0.005	ND<0.005	ND<0.005	—
VEW1-45	45	06/27/1996	0.021	0.014	ND<0.005	ND<0.005	—
VEW1-50	50	06/27/1996	0.082	0.07	ND<0.005	ND<0.005	—
MW1-15	15	11/23/1998	0.515	0.033	ND<0.005	ND<0.005	—
MW1-25	25	11/23/1998	0.315	0.023	ND<0.005	ND<0.005	—
MW1-30	30	11/23/1998	0.089	0.040	ND<0.005	ND<0.005	—
MW1-35	35	11/23/1998	0.010	ND<0.005	ND<0.005	ND<0.005	—
B16-20	20	08/07/2001	—	—	—	—	—
B16-30	30	08/07/2001	—	—	—	—	—
B16-40	40	08/07/2001	—	—	—	—	—
B16-50	50	08/07/2001	—	—	—	—	—
B16-55	55	08/07/2001	ND<0.005	ND<0.005	ND<0.005	ND<0.005	—
B16-60	60	08/07/2001	ND<0.005	0.014	ND<0.005	ND<0.005	—
B16-65	65	08/07/2001	ND<0.005	0.024	ND<0.005	ND<0.005	—
B16-70	70	08/07/2001	ND<0.005	ND<0.005	ND<0.005	ND<0.005	—
B16-75	75	08/07/2001	ND<0.005	ND<0.005	ND<0.005	ND<0.005	—
B16-100	100	08/07/2001	ND<0.005	ND<0.005	ND<0.005	ND<0.005	—
B17-20	20	06/29/2001	—	—	—	—	—
B17-25	25	06/29/2001	—	—	—	—	—
B17-30	30	06/29/2001	—	—	—	—	—
B17-35	35	06/29/2001	—	—	—	—	—
B17-40	40	06/29/2001	—	—	—	—	—
B18-20	20	06/29/2001	—	—	—	—	—
B18-25	25	06/29/2001	—	—	—	—	—
B18-30	30	06/29/2001	—	—	—	—	—
B18-35	35	06/29/2001	—	—	—	—	—
B18-40	40	06/29/2001	—	—	—	—	—

Notes:

- 1 Tetrachloroethene (PCE), trichloroethene (TCE), cis 1,2-dichloroethene (cis 1,2-DCE), methylene chloride and toluene analyzed in general accordance with EPA Method No. 8010 or 8260B. Only detected compounds have been listed.
- 2 Total chromium and cadmium analyzed in general accordance with EPA Method No. 6010B.
- 3 Hexavalent chromium analyzed in general accordance with EPA Method Nos. 7196 or 7199.
- 4 Total organic carbon analyzed in general accordance with EPA Method Nos. 9060.
- 5 — = Not Analyzed, ND = Not detected above laboratory detection limit

**TABLE 2**  
**CHEMICAL ANALYSES OF SOIL SAMPLES**  
**METALS, TOTAL ORGANIC CARBON AND pH**

**FORMER MONDO CHROME FACILITY**  
**4933 FIRESTONE BOULEVARD**  
**SOUTH GATE, CALIFORNIA**

Boring Number	Depth (feet bgs)	Date Sampled	Total Chromium (mg/kg)	Soluble Chromium (mg/L)	Chromium VI (mg/kg)	Soluble Chromium IV (mg/L)	Cadmium (mg/kg)	Cyanide (mg/kg)	Nickel (mg/kg)	Total Organic Carbon (mg/kg)	pH
HB-1	2	04/23/1992	18.2	---	---	---	---	---	---	---	8.7
	5	04/23/1992	14.1	---	---	---	---	---	---	---	8.7
	10	04/23/1992	15.7	---	---	---	---	---	---	---	8.8
HB-2	2	04/23/1992	195	10.7	---	---	---	---	---	---	9.0
HB-3	2	04/23/1992	75.7	2.9	---	---	---	---	---	---	9.3
	5	04/23/1992	235	6.5	---	---	0.06	---	---	---	9.0
	10	04/23/1992	158	6.1	---	---	---	---	---	---	9.4
HB-4	5	04/23/1992	137	6.6	---	---	43.1	---	---	---	9.1
	10	04/23/1992	67.8	3.4	---	---	---	---	---	---	8.6
	15	04/23/1992	45	---	---	---	---	---	---	---	9.0
HB-5	2	04/23/1992	45.8	---	---	---	---	---	---	---	10.1
	5	04/23/1992	124	1.8	---	---	---	---	---	---	9.1
	10	04/23/1992	38.6	---	---	---	---	---	---	---	8.9
	15	04/23/1992	22.4	---	---	---	---	---	---	---	9.6
HB-6	1	04/23/1992	57.2	1.7	---	---	---	---	---	---	8.5
	5	04/23/1992	11.5	---	---	---	---	---	---	---	9.0
	10	04/23/1992	18.2	---	---	---	---	---	---	---	9.1
HB-7	1	04/23/1992	149	12.9	---	---	---	---	---	---	8.3
	5	04/23/1992	95.4	8.6	---	---	---	---	---	---	8.5
	10	04/23/1992	17.8	---	---	---	---	---	---	---	9.0
HB-8	2	Oct - 1992	20.9	---	---	---	0.14	---	---	---	---
	5	Oct - 1992	32.1	---	---	---	0.07	---	---	---	---
	10	Oct - 1992	22.7	---	---	---	0.13	---	---	---	---
HB-9	2	Oct - 1992	14.5	---	---	---	---	---	---	---	---
	5	Oct - 1992	12.6	---	---	---	0.11	---	---	---	---
	10	Oct - 1992	35.4	---	---	---	0.25	---	---	---	---
HB-10	2	Oct - 1992	102	4.2	---	---	0.43	---	---	---	---
	5	Oct - 1992	42.8	---	---	---	ND	---	---	---	---
	10	Oct - 1992	16	---	---	---	0.21	---	---	---	---

**TABLE 2**  
**CHEMICAL ANALYSES OF SOIL SAMPLES**  
**METALS, TOTAL ORGANIC CARBON AND pH**

**FORMER MONDO CHROME FACILITY**  
**4933 FIRESTONE BOULEVARD**  
**SOUTH GATE, CALIFORNIA**

Boring Number	Depth (feet bgs)	Date Sampled	Total Chromium (mg/kg)	Soluble Chromium (mg/L)	Chromium VI (mg/kg)	Soluble Chromium IV (mg/L)	Cadmium (mg/kg)	Cyanide (mg/kg)	Nickel (mg/kg)	Total Organic Carbon (mg/kg)	pH
HB-11	2	Oct - 1992	---	---	---	---	---	---	---	---	---
	5	Oct - 1992	---	---	---	---	---	---	---	---	---
	10	Oct - 1992	---	---	---	---	---	---	---	---	---
	15	Oct - 1992	---	---	---	---	---	---	---	---	---
B-1	2	Oct - 1992	10.8	---	---	---	0.06	ND	3.73	---	7.4
	5	Oct - 1992	11	---	---	---	0.06	ND	6.22	---	7.6
	10	Oct - 1992	21.4	---	---	---	0.006	ND	11.6	---	8.1
B-2	2	Oct - 1992	399	18.1	7.1	0.59	0.14	ND	8.1	---	8.6
	5	Oct - 1992	116	3.4	---	---	0.19	ND	9.9	---	8.4
	10	Oct - 1992	126	4.4	21	---	0.23	ND	13.8	---	8.3
	15	Oct - 1992	162	6.9	---	4.2	---	---	---	---	---
	20	Oct - 1992	71	2.6	---	---	---	---	---	---	---
B-3	2	Oct - 1992	9.2	---	---	---	0.06	ND	7.6	---	---
	5	Oct - 1992	10.3	---	---	---	0.24	ND	8	---	---
	10	Oct - 1992	13	---	---	---	0.1	ND	9.48	---	---
B-4	2	Oct - 1992	NA	---	---	---	---	---	5.28	---	8.2
	5	Oct - 1992	NA	---	---	---	---	---	9.9	---	9.5
B-5	2	Oct - 1992	8.8	---	---	---	0.03	ND	6.55	---	9.6
	5	Oct - 1992	9.4	---	---	---	0.09	ND	7.4	---	8.2
	10	Oct - 1992	15.2	---	---	---	0.13	ND	10.9	---	8.2
B-6	2	Oct - 1992	10.5	---	---	---	0.18	---	7.3	---	---
	5	Oct - 1992	9	---	---	---	ND	---	7.01	---	---
	10	Oct - 1992	13.8	---	---	---	0.04	---	11.9	---	---
B-7	2	Oct - 1992	52	2.3	---	---	ND	---	---	---	---
	5	Oct - 1992	28.7	---	---	---	ND	---	---	---	---
	10	Oct - 1992	26.2	---	---	---	0.1	---	---	---	---
	15	Oct - 1992	15.5	---	---	---	0.04	---	---	---	---
B-8	2	Oct - 1992	---	---	---	---	---	---	---	---	---
	5	Oct - 1992	32.4	---	---	---	0.05	---	---	---	---
	10	Oct - 1992	83.1	6.2	---	4.9	0.17	---	---	---	---
	15	Oct - 1992	143	5.2	---	1.2	0.13	---	---	---	---
	20	Oct - 1992	22	---	---	---	---	---	---	---	---
	25	Oct - 1992	24	---	---	---	---	---	---	---	---

**TABLE 2**  
**CHEMICAL ANALYSES OF SOIL SAMPLES**  
**METALS, TOTAL ORGANIC CARBON AND pH**

**FORMER MONDO CHROME FACILITY**  
**4933 FIRESTONE BOULEVARD**  
**SOUTH GATE, CALIFORNIA**

Boring Number	Depth (feet bgs)	Date Sampled	Total Chromium (mg/kg)	Soluble Chromium (mg/L)	Chromium VI (mg/kg)	Soluble Chromium IV (mg/L)	Cadmium (mg/kg)	Cyanide (mg/kg)	Nickel (mg/kg)	Total Organic Carbon (mg/kg)	pH
B-9	2	Oct - 1992	---	---	---	---	---	---	---	---	---
	5	Oct - 1992	69.3	4.1	---	---	0.46	---	---	---	---
	10	Oct - 1992	43	---	---	---	0.23	---	---	---	---
	15	Oct - 1992	38.4	---	---	---	0.13	---	---	---	---
B-10	2	Oct - 1992	---	---	---	---	---	---	---	---	---
	5	Oct - 1992	77.3	4.4	---	---	0.09	---	---	---	---
	10	Oct - 1992	50.8	1.7	---	---	0.23	---	---	---	---
	15	Oct - 1992	85.3	2.4	---	---	ND	---	---	---	---
B-11	2	Oct - 1992	---	---	---	---	---	---	---	---	---
	5	Oct - 1992	40.9	---	---	---	ND	---	---	---	---
	10	Oct - 1992	24.8	---	---	---	ND	---	---	---	---
	15	Oct - 1992	31.6	---	---	---	0.17	---	---	---	---
	20	Oct - 1992	---	---	---	---	---	---	---	---	---
	30	Oct - 1992	---	---	---	---	---	---	---	---	---
	40	Oct - 1992	---	---	---	---	---	---	---	---	---
B-12	15	Oct - 1992	---	---	---	---	---	---	---	---	---
	20	Oct - 1992	---	---	---	---	---	---	---	---	---
FB1	1	06/27/1996	15.1	---	ND<0.2	---	3.6	---	---	---	---
FB2	1	06/27/1996	14.2	---	ND<0.2	---	2.3	---	---	---	---
FB3	1	06/27/1996	69.6	---	ND<0.2	---	8.7	---	---	---	---
FB4	1	06/27/1996	110	---	ND<0.2	---	2.7	---	---	---	---
FB5	1	06/27/1996	56.9	---	ND<0.2	---	2.4	---	---	---	---
VEW1-5	5	06/27/1996	---	---	---	---	---	---	---	---	---
VEW1-15	15	06/27/1996	---	---	---	---	---	---	---	---	---
VEW1-25	25	06/27/1996	---	---	---	---	---	---	---	---	---
VEW1-35	35	06/27/1996	---	---	---	---	---	---	---	---	---
VEW1-45	45	06/27/1996	---	---	---	---	---	---	---	---	---
VEW1-50	50	06/27/1996	---	---	---	---	---	---	---	---	---
MW1-15	15	11/23/1998	---	---	---	---	---	---	---	---	---
MW1-25	25	11/23/1998	---	---	---	---	---	---	---	---	---
MW1-30	30	11/23/1998	---	---	---	---	---	---	---	---	---
MW1-35	35	11/23/1998	---	---	---	---	---	---	---	---	---

**TABLE 2  
CHEMICAL ANALYSES OF SOIL SAMPLES  
METALS, TOTAL ORGANIC CARBON AND pH**

**FORMER MONDO CHROME FACILITY  
4933 FIRESTONE BOULEVARD  
SOUTH GATE, CALIFORNIA**

Boring Number	Depth (feet bgs)	Date Sampled	Total Chromium (mg/kg)	Soluble Chromium (mg/L)	Chromium VI (mg/kg)	Soluble Chromium IV (mg/L)	Cadmium (mg/kg)	Cyanide (mg/kg)	Nickel (mg/kg)	Total Organic Carbon (mg/kg)	pH
B16-20	20	08/07/2001	ND<0.005	---	ND<0.001	---	ND<0.005	---	---	190	---
B16-30	30	08/07/2001	ND<0.005	---	ND<0.001	---	ND<0.005	---	---	450	---
B16-40	40	08/07/2001	ND<0.005	---	ND<0.001	---	ND<0.005	---	---	280	---
B16-50	50	08/07/2001	---	---	---	---	---	---	---	590	---
B16-55	55	08/07/2001	14.9	---	0.120	---	ND<0.5	---	---	---	---
B16-60	60	08/07/2001	---	---	---	---	---	---	---	---	---
B16-65	65	08/07/2001	16.4	---	0.079	---	ND<0.5	---	---	---	---
B16-70	70	08/07/2001	---	---	---	---	---	---	---	---	---
B16-75	75	08/07/2001	8.57	---	0.150	---	ND<0.5	---	---	ND<40	---
B16-100	100	08/07/2001	7.59	---	0.140	---	ND<0.5	---	---	42	---
B17-20	20	06/29/2001	14.6	---	ND<1.0	---	---	---	---	---	---
B17-25	25	06/29/2001	58	---	ND<1.0	---	---	---	---	---	---
B17-30	30	06/29/2001	175	---	18.1	---	---	---	---	---	---
B17-35	35	06/29/2001	10.9	---	6.60	---	---	---	---	---	---
B17-40	40	06/29/2001	14.3	---	ND<1.0	---	---	---	---	---	---
B18-20	20	06/29/2001	87.2	---	ND<1.0	---	---	---	---	---	---
B18-25	25	06/29/2001	142	---	ND<1.0	---	---	---	---	---	---
B18-30	30	06/29/2001	21.1	---	ND<1.0	---	---	---	---	---	---
B18-35	35	06/29/2001	11.5	---	ND<1.0	---	---	---	---	---	---
B18-40	40	06/29/2001	19.6	---	ND<1.0	---	---	---	---	---	---
CHHSL Industrial Soils			100,000		37		7.5		16,000		
EPA RSL for Industrial Soils								2,000			
Notes:											
1	Total chromium and cadmium analyzed in general accordance with EPA Method No. 6010B.										
	Hexavalent chromium analyzed in general accordance with EPA Method Nos. 7196 or 7199.										
2	Total organic carbon analyzed in general accordance with EPA Method Nos. 9060.										
3	--- = Not Analyzed, ND = Not detected above laboratory detection limit										
4	For samples B16-20, B16-30 and B16-40 concentrations of total chromium, cadmium and hexavalent chromium values are for synthetic precipitation leaching potential as analyzed in accordance with EPA 6010B or 7199.										

**TABLE 3**  
**CHEMICAL ANALYSES OF VAPOR SAMPLES**  
**DURING VAPOR EXTRACTION TESTING**

Former Mondo Chrome Facility  
4933 Firestone Boulevard  
South Gate, California

(vapor - (v/v) parts per billion - unless otherwise noted)

SAMPLE NUMBER	DATE SAMPLED	PCE [1]	TCE [2]	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES	1,1-DCE [3]	Cis 1,2-DCE [4]	4-ETHYL TOLUENE	1,2,4-TRIMETHYL BENZENE
VS1	07/16/1996	31,000	25,400	1,550	6,990	430	3,650	400	360	220	420
VS2	07/16/1996	32,800	26,000	1,320	6,310	550	7,460	180	350	840	1,290

Notes:

- 1 PCE = Tetrachloroethene
- 2 TCE = Trichloroethene
- 3 1,1-DCE = 1,1-Dichloroethene
- 4 Cis 1,2-Dichloroethene
- 5 The vapor samples were analyzed in accordance with EPA Method No. TO-14. Only detected analytes have been listed.

**TABLE 4**  
**SOIL BORING GROUNDWATER SAMPLE RESULTS**

**Former Mondo Chrome**  
**4933 Firestone Boulevard**  
**South Gate, California**

Sample No.	Date Sampled	Sample Depth (feet bgs)	PCE ug/L (ppb)	TCE ug/L (ppb)	cis-1,2-DCE ug/L (ppb)	1,1-DCE ug/L (ppb)	Vinyl Chloride ug/L (ppb)	Total Chromium ug/L (ppb)	Chromium VI ug/L (ppb)	Cadmium ug/L (ppb)
B12	06/28/2001	40	258	453	3.4	1.7	ND<1.0	430	ND<0.5	60
B13	06/29/2001	40	ND<10	180	14	ND<16.0	ND<10.0	---	ND<0.5	---
B15	06/28/2001	40	16.9	290	9.6	0.7	ND<0.5	---	ND<0.5	---
B16-70	08/07/2001	70	82	710	ND<10	ND<10	ND<5.0	---	ND<1.0	---
B16-100	08/07/2001	100	44	290	ND<10	ND<10	ND<5.0	---	ND<1.0	---
B17	06/29/2001	40	305	668	ND<10	ND<16.0	ND<10.0	9,270	ND<0.5	ND<300
DHS MCLs			5	5	6	6	0.5	50		5

Notes

- 1 Groundwater samples collected from direct push boreholes.
- 2 Well elevation recorded at top of casing.
- 3 PCE = Tetrachloroethene, TCE = trichloroethene, cis 1,2-DCE = cis 1,2-Dichloroethene, and 1,1-DCE = 1,1-Dichloroethene analyzed in accordance with EPA Method No. 8021B
- 4 Total chromium and cadmium analyzed in general accordance with EPA Method No. 6010B.
- 5 Hexavalent chromium analyzed in general accordance with EPA Method No. 7196 or 7199.
- 6 Maximum Contaminant Levels (MCLs) are enforceable drinking water standards set by the California Department of Health Services.
- 7 ND< constituent not detected above the stated concentration
- 8 NA - Not analyzed
- 9 --- = A sufficient volume of groundwater could not be collected for the noted analyses.

TABLE 5  
GROUNDWATER LEVELS AND CHEMICAL ANALYSES  
VOLATILE ORGANIC COMPOUNDS  
Former Mondo Chrome Facility  
4933 Firestone Boulevard  
South Gate, California

Well Number	Well Elevation (ft-msl)	Date Sampled	Depth to Groundwater (feet)	Groundwater Elevation (ft-msl)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl chloride (µg/L)	1,2-DCA (µg/L)	1,2,3-TCP (µg/L)	1,4-Dioxane (µg/L)
MW1  screen interval (feet-bgs) 30-55	109.40	12/07/1998	41.58	67.82	110	140	6.8	—	ND<1.0	ND<1.0	ND<0.5	—	—
		03/03/1999	40.71	68.69	140	190	ND<10	—	ND<16	ND<20	ND<10	—	—
		06/24/1999	40.36	69.04	600	780	ND<25	—	ND<40	ND<50	ND<25	—	—
		09/17/1999	40.31	69.09	707	824	9.4	—	1.9	1.9	ND<0.5	—	—
		12/20/1999	40.35	69.05	395	635	10	—	1.6	ND<1.0	ND<0.5	—	—
		03/28/2000	40.42	68.98	368	538	11	—	1.9	ND<1.0	ND<0.5	—	—
		06/26/2000	40.50	68.90	663	909	125	—	ND<0.8	ND<1.0	ND<0.5	—	—
		09/22/2000	40.55	68.85	111	150	ND<0.5	—	2.49	ND<1.0	ND<0.5	—	—
		12/18/2000	41.78	67.62	616	116	14	2.1	1.4	ND<1.0	ND<0.5	—	—
		03/05/2001	40.90	68.50	670	330	11	2.2	2.7	3.4	0.65	—	—
		06/04/2001	40.88	68.52	420	800	12	ND<0.8	1.6	ND<1.0	ND<1.0	—	—
		09/24/2001	41.28	68.12	430	890	17	ND<10	ND<10	ND<10	ND<5.0	—	—
		12/13/2001	41.71	67.69	420	890	12	ND<1.0	1.9	ND<1.0	ND<0.50	—	—
		03/27/2002	41.70	67.70	590	980	18	ND<5.0	ND<5.0	ND<5.0	ND<2.5	—	—
		10/30/2002	41.72	67.68	500	880	12	ND<10	ND<10	ND<5.0	ND<5.0	—	—
		05/06/2003	43.18	66.22	640	1,000	17	ND<10	ND<10	ND<5.0	ND<5.0	—	—
		11/07/2003	43.54	65.86	510	820	15	ND<1.0	2.3	0.90	ND<0.50	—	—
		03/14/2008	43.58	65.82	310	560	13	ND<1.0	ND<1.0	ND<0.50	ND<0.50	ND<5.00	5.8
		03/18/2011	48.34	61.06	26	250	48	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	—
MW2  screen interval (feet-bgs) 30-55	109.45	12/07/1998	41.68	67.77	11	77	16	—	ND<1.0	ND<1.0	ND<0.5	—	—
		03/03/1999	40.81	68.64	6.5	130	13	—	ND<4	ND<5	ND<2.5	—	—
		06/24/1999	40.45	69.00	20	160	13	—	ND<8	ND<10	ND<5	—	—
		09/17/1999	40.40	69.05	15	156	21	—	ND<0.8	ND<1	ND<0.5	—	—
		12/20/1999	40.43	69.02	27	158	18	—	ND<0.8	ND<1.0	ND<0.5	—	—
		03/28/2000	40.38	69.07	8.4	138	27	—	0.8	ND<1.0	ND<0.5	—	—
		06/26/2000	40.46	68.99	17	101	230	—	ND<0.8	ND<1.0	ND<0.5	—	—
		09/22/2000	40.47	68.98	3.79	72.6	ND<0.5	—	ND<0.8	ND<1.0	ND<0.5	—	—
		12/18/2000	41.70	67.75	12	92	28	2.1	ND<0.8	ND<1.0	ND<0.5	—	—
		03/05/2001	40.83	68.62	7.1	50	19	2.2	1.3	1.2	ND<0.5	—	—
		06/04/2001	40.71	68.74	3.0	86	24	ND<0.8	ND<0.8	ND<1.0	ND<0.5	—	—
		09/24/2001	41.11	68.34	3.1	94	45	ND<10	ND<1.0	ND<1.0	ND<0.50	—	—
		12/13/2001	41.49	67.96	2.9	98	34	ND<1.0	ND<1.0	ND<1.0	ND<0.50	—	—
		03/27/2002	41.40	68.05	4.1	120	46	1.1	ND<1.0	ND<1.0	ND<0.50	—	—
		10/30/2002	41.43	68.02	5.0	90	62	1.3	ND<1.0	ND<0.50	ND<0.50	—	—
		05/06/2003	42.76	66.69	2.9	97	53	1.4	ND<1.0	ND<0.50	ND<0.50	—	—
		11/07/2003	43.26	66.19	3.3	90	52	1.2	ND<1.0	ND<0.50	ND<0.50	—	—
		03/14/2008	43.22	66.23	2.2	68	43	ND<1.0	ND<1.0	ND<0.50	ND<0.50	ND<5.00	ND<2.0
		03/18/2011	47.73	61.72	1.8	4.9	14	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	—

**TABLE 5**  
**GROUNDWATER LEVELS AND CHEMICAL ANALYSES**  
**VOLATILE ORGANIC COMPOUNDS**  
**Former Mondo Chrome Facility**  
**4933 Firestone Boulevard**  
**South Gate, California**

Well Number	Well Elevation (ft-msl)	Date Sampled	Depth to Groundwater (feet)	Groundwater Elevation (ft-msl)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl chloride (µg/L)	1,2-DCA (µg/L)	1,2,3-TCP (µg/L)	1,4-Dioxane (µg/L)
MW3 screen interval (feet-bgs) 30-55	109.61	12/07/1998	41.78	67.83	9.3	75	10	—	1.7	ND<1.0	ND<0.50	—	—
		03/03/1999	40.94	68.67	5.1	100	6.4	—	ND<4	ND<5	ND<2.5	—	—
		06/24/1999	40.59	69.02	7.4	110	7.3	—	ND<8	ND<10	ND<5	—	—
		09/17/1999	40.56	69.05	6.1	145	12	—	1.2	2.3	1.2	—	—
		12/20/1999	40.61	69.00	4.4	43	3.6	—	ND<0.8	ND<1.0	ND<0.5	—	—
		03/28/2000	40.54	69.07	4.7	114	13	—	1.7	ND<1.0	0.9	—	—
		06/26/2000	40.61	69.00	26	92	ND<0.5	—	ND<0.8	ND<1.0	ND<0.50	—	—
		09/22/2000	40.60	69.01	7.11	66	4.97	—	1.61	ND<1.0	ND<0.50	—	—
		12/18/2000	41.85	67.76	11	80	13	1.9	1.1	ND<1.0	ND<0.50	—	—
		03/05/2001	40.90	68.71	7	47	11	2	2.2	1.4	1.2	—	—
		06/04/2001	40.86	68.75	2.4	56	9.2	ND<0.8	0.85	ND<1.0	ND<0.50	—	—
		09/24/2001	41.20	68.41	2.5	72	17	ND<1.0	1.4	ND<1.0	1.0	—	—
		12/13/2001	41.48	68.13	3.1	67	11	ND<1.0	1.3	ND<1.0	ND<0.50	—	—
		03/27/2002	41.42	68.19	3.4	80	14	ND<1.0	1.7	ND<1.0	1.0	—	—
		10/30/2002	41.44	68.17	13	72	18	ND<1.0	1.2	ND<0.50	ND<0.50	—	—
		05/06/2003	42.86	66.75	3.5	63	12	ND<1.0	1.5	ND<0.50	0.66	—	—
		11/07/2003	43.36	66.25	1.5	61	13	ND<1.0	1.5	0.59	ND<0.50	—	—
		03/14/2008	43.43	66.18	1.2	49	25	ND<1.0	ND<1.0	ND<0.50	ND<0.50	ND<5.00	ND<2.0
		03/18/2011	48.11	61.50	9.8	27	13	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	—
DHS MCLs					5	5	6	0.8	6	0.5	0.5		

**notes:**

- [1] well elevation recorded at top of casing
- [2] maximum contaminant levels (MCLs) are enforceable drinking water standards
- [3] Trichlorobenzene 1,2,3 and 1,2,4 detected at concentrations of 1.1 µg/L and 1.0 µg/L, respectively, in sample from well MW3 on 05/06/03.
- ND constituent not detected above the stated concentration
- not analyzed

PCE tetrachloroethene  
TCE trichloroethene  
cis-1,2-DCE cis-1,2 dichloroethene  
trans-1,2-DCE trans-1,2 dichloroethene  
1,1-DCE 1,1-dichloroethene  
1,2-DCA 1,2-dichloroethane  
1,2,3-TCP 1,2,3-Trichloropropane

**TABLE 6**  
**ADDITIONAL CHEMICAL ANALYSES OF GROUNDWATER SAMPLES**

**Former Mondo Chrome Facility**  
**4933 Firestone Boulevard**  
**South Gate, California**

Well Number	Date Sampled	Color	pH	Total Cyanide (µg/L)	Total Chromium (µg/L)	Chromium VI (µg/L)	Cadmium (µg/L)	Nickel (µg/L)
MW1	12/07/1998	---	7.48	---	---	---	---	---
	03/03/1999	---	7.04	---	19	ND<20	ND<4	---
	06/24/1999	---	7.34	---	19	ND<20	ND<4	---
	09/17/1999	---	7.37	---	16	ND<20	ND<4	---
	12/20/1999	---	---	---	37	ND<20	ND<3	---
	03/28/2000	---	7.22	---	4	---	---	---
	06/26/2000	---	---	---	46	---	---	---
	09/22/2000	---	7.53	---	ND<3	---	---	---
	12/18/2000	---	6.83	---	20	ND<20	ND<3	---
	03/05/2001	---	7.05	---	11	ND<20	ND<3	---
	06/04/2001	---	7.07	---	19	---	ND<3	---
	09/24/2001	---	7.35	---	8.42	ND<1.0	ND<5	---
	12/13/2001	---	7.38	---	22.5	ND<1.0	ND<5	---
	03/27/2002	---	7.04	---	15.4	ND<1.0	ND<5	---
	10/30/2002	---	---	---	ND<5	ND<1.0	ND<5	---
	05/06/2003	---	7.35	---	ND<5	ND<1.0	ND<5	---
	11/07/2003	---	---	---	8.03	ND<1.0	ND<5.00	---
	03/14/2008	5.0	7.17	ND<50	ND<5.00	ND<0.20	ND<5.00	8.75
	03/18/2011	---	---	---	---	---	---	---
MW2	12/07/1998	---	7.20	---	---	---	---	---
	03/03/1999	---	6.91	---	33	ND<20	ND<4	---
	06/24/1999	---	7.17	---	50	ND<20	ND<4	---
	09/17/1999	---	7.16	---	40	ND<20	ND<4	---
	12/20/1999	---	---	---	18	ND<20	ND<3	---
	03/28/2000	---	7.37	---	19	---	---	---
	06/26/2000	---	---	---	38	---	---	---
	09/22/2000	---	7.57	---	17	---	---	---
	12/18/2000	---	6.62	---	20	ND<20	ND<3	---
	03/05/2001	---	7.03	---	23	ND<20	3	---
	06/04/2001	---	7.05	---	28	---	ND<3	---
	09/24/2001	---	7.27	---	6.73	ND<1.0	ND<5	---
	12/13/2001	---	7.30	---	12.1	ND<1.0	ND<5	---
	03/27/2002	---	7.11	---	9.67	ND<1.0	ND<5	---
	10/30/2002	---	---	---	17.6	ND<1.0	ND<5	---
	05/06/2003	---	7.03	---	ND<5	ND<1.0	ND<5	---
	11/07/2003	---	---	---	ND<5	ND<1.0	ND<5	---
	03/14/2008	10	7.06	ND<50	6.41	ND<1.0	ND<5.00	---
	03/18/2011	---	---	---	---	---	---	---

**TABLE 6**  
**ADDITIONAL CHEMICAL ANALYSES OF GROUNDWATER SAMPLES**

**Former Mondo Chrome Facility**  
**4933 Firestone Boulevard**  
**South Gate, California**

Well Number	Date Sampled	Color	pH	Total Cyanide (µg/L)	Total Chromium (µg/L)	Chromium VI (µg/L)	Cadmium (µg/L)	Nickel (µg/L)
MW3	12/07/1998	---	7.29	---	---	---	---	---
	03/03/1999	---	6.9	---	68	ND<20	ND<4	---
	06/24/1999	---	7.46	---	50	ND<20	ND<4	---
	09/17/1999	---	6.16	---	58	ND<20	ND<4	---
	12/20/1999	---	---	---	37	ND<20	ND<3	---
	03/28/2000	---	7.29	---	19	---	---	---
	06/26/2000	---	---	---	44	---	---	---
	09/22/2000	---	7.35	---	20	---	---	---
	12/18/2000	---	6.51	---	30	ND<20	ND<3	---
	03/05/2001	---	7.02	---	24	ND<20	6	---
	06/04/2001	---	7.19	---	26	---	3	---
	09/24/2001	---	7.40	---	7.74	ND<1.0	ND<5	---
	12/13/2001	---	7.36	---	9.35	ND<1.0	ND<5	---
	03/27/2002	---	6.85	---	11.8	ND<1.0	ND<5	---
	10/30/2002	---	---	---	11.6	ND<1.0	ND<5	---
	05/06/2003	---	7.25	---	8.12	ND<1.0	ND<5	---
	11/07/2003	---	---	---	5.04	ND<1.0	ND<5	---
	03/14/2008	10	6.98	ND<50	ND<5.00	ND<0.20	ND<5.00	21.0
	03/18/2011	---	---	---	---	---	---	---
<b>DHS MCLs</b>					<b>50</b>		<b>5</b>	<b>100</b>

**Notes:**

ND Not detected above laboratory detection limit  
 --- Not analyzed

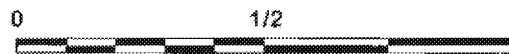
## FIGURES



## EXPLANATION



NORTH



SCALE IN MILES

FORMER MONDO CHROME FACILITY  
4933 FIRESTONE BOULEVARD  
SOUTH GATE, CALIFORNIA

Client: TEDESCO LEASING

Project No.: 172-01

## NOTE:

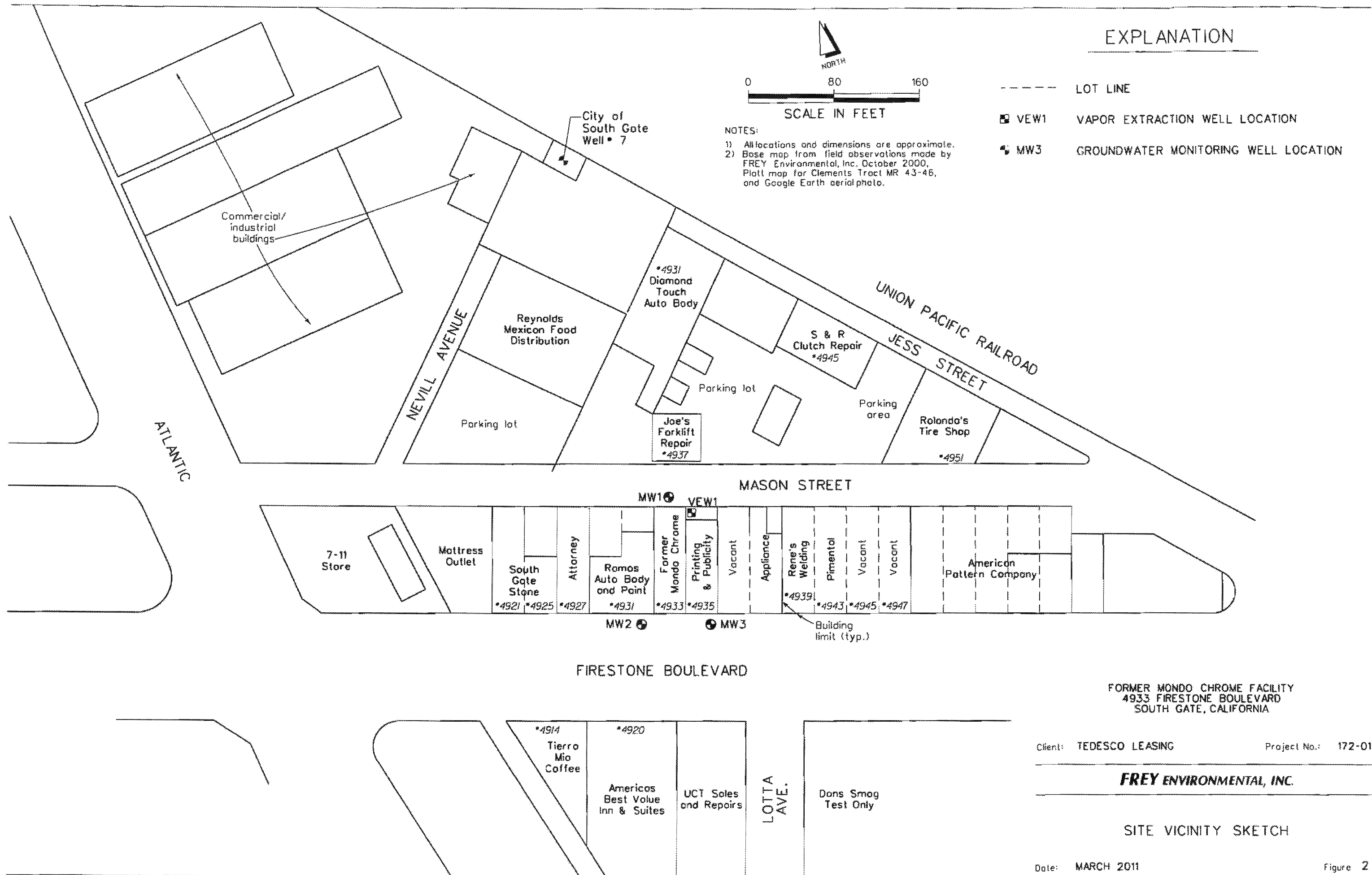
- 1) All locations and dimensions are approximate.
- 2) Base map from USGS 7.5 minute South Gate (1978, photorevised 1981), California topographic quadrangle.
- 3) Groundwater well data from Fugro West, Inc., project no. 94-48-1320.

**FREY ENVIRONMENTAL, INC.**

## SITE LOCATION MAP

Date: MAY 2008

Figure: 1



MW2

FIRESTONE BOULEVARD

Sidewalk

## EXPLANATION

[5]

FORMER ABOVE GROUND PROCESS TANK LOCATION

▲ HB6

HAND AUGER BORING LOCATION

● B11

BORING LOCATION

○ D3

FORMER DRUM/MISCELLANEOUS CONTAINER LOCATION AND DESIGNATION

■ VEW1

VAPOR EXTRACTION WELL LOCATION

+ FB4/VP2

SOIL SAMPLE LOCATION/VAPOR PROBE LOCATION

⊙ MW1

GROUNDWATER MONITORING WELL LOCATION

feet BGS	Total Chromium
1'	69.6

With concentration of chlorinated volatile organic compounds and selected metals in soil (in mg/kg)

BUILDING

NOTES:

- 1) All locations and dimensions are approximate.
- 2) Base map from Proposed Site Assessment, Former Mondo Chrome Facility, by Fugro West, Inc., project no. 94-48-1320, dated August 1994, and field observations made by FREY Environmental, Inc. July 1996.

FORMER MONDO CHROME FACILITY  
4933 FIRESTONE BOULEVARD  
SOUTH GATE, CALIFORNIA

Client: TEDESCO LEASING

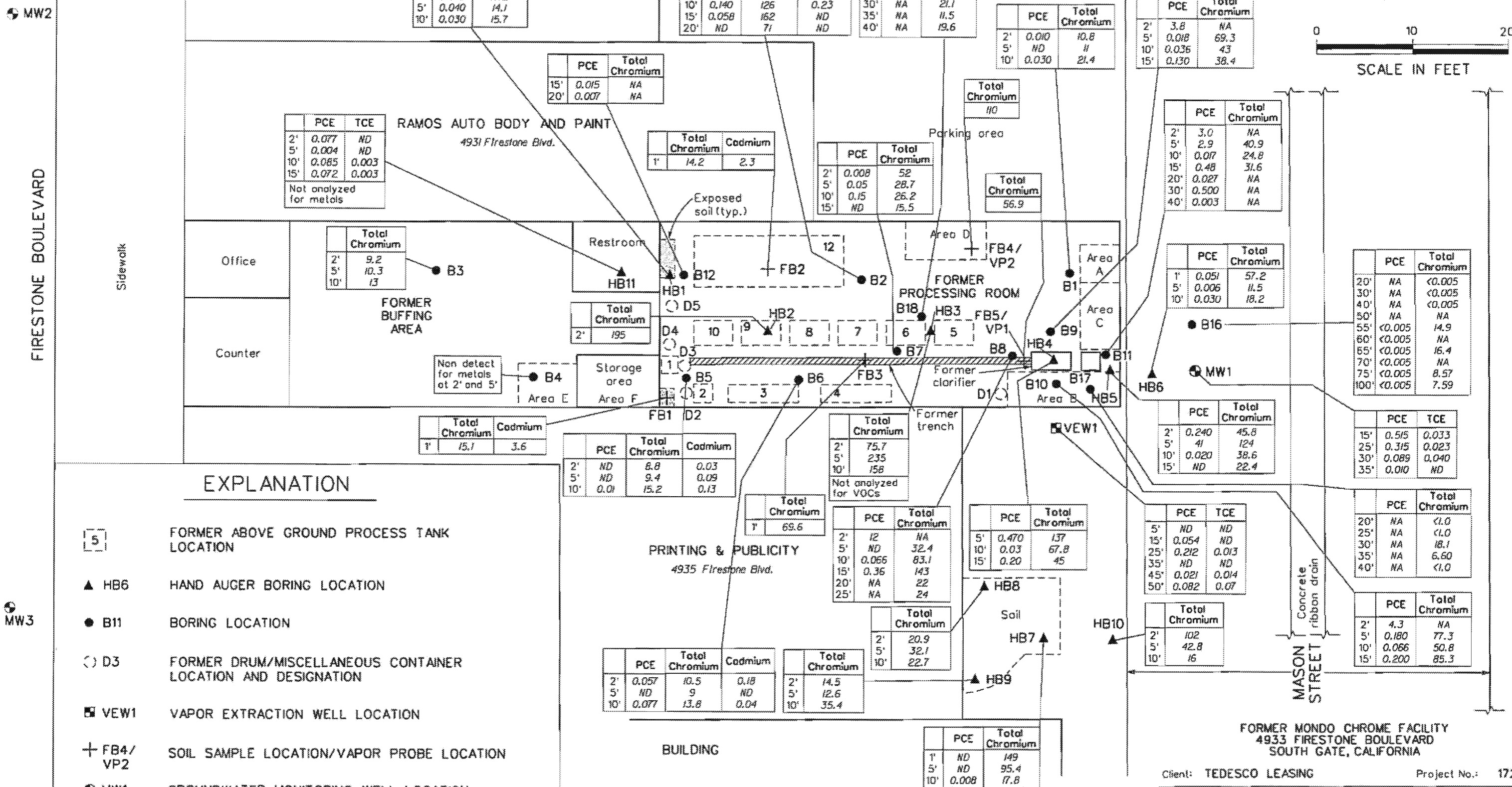
Project No.: 172-01

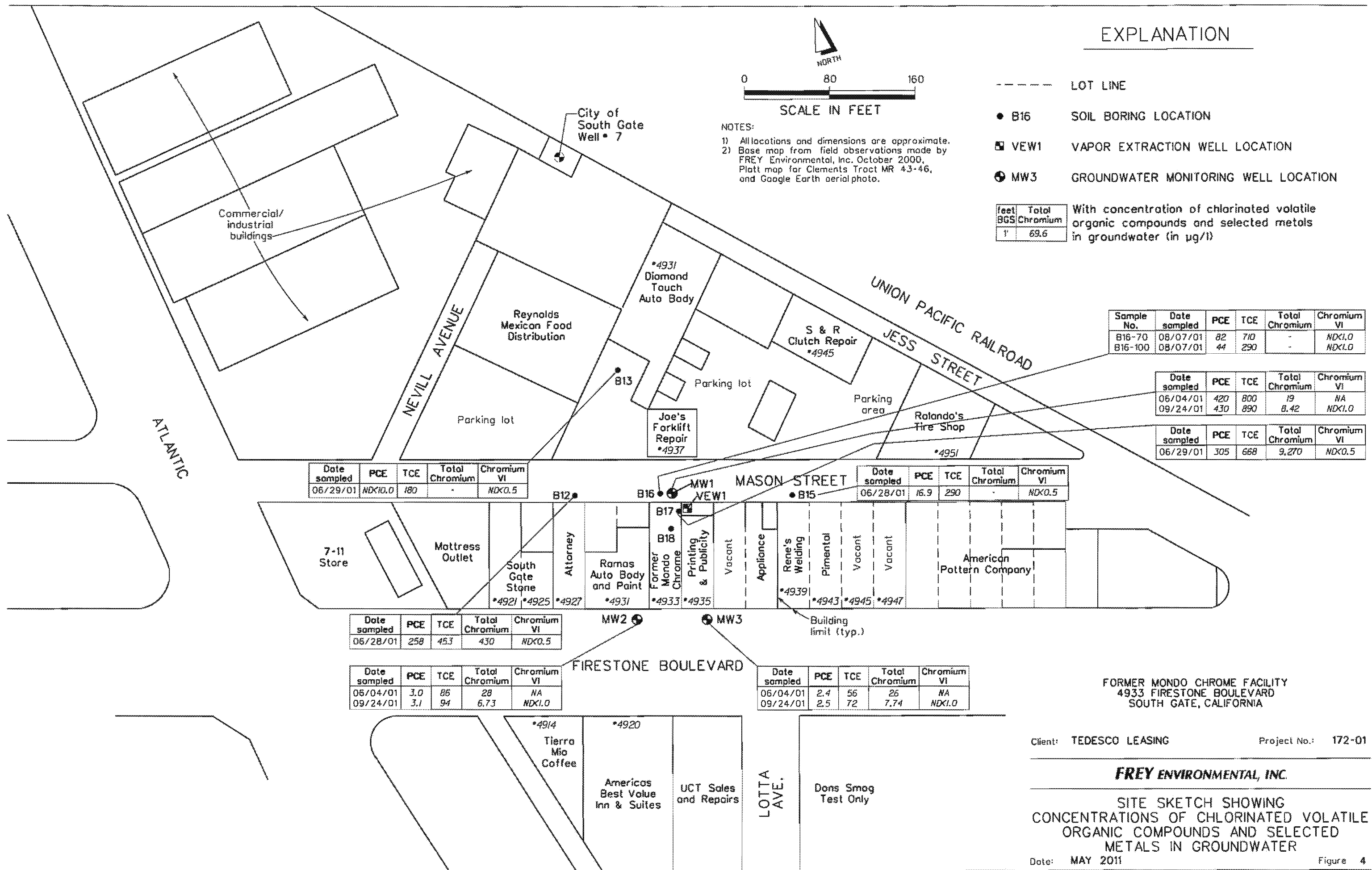
FREY ENVIRONMENTAL, INC.

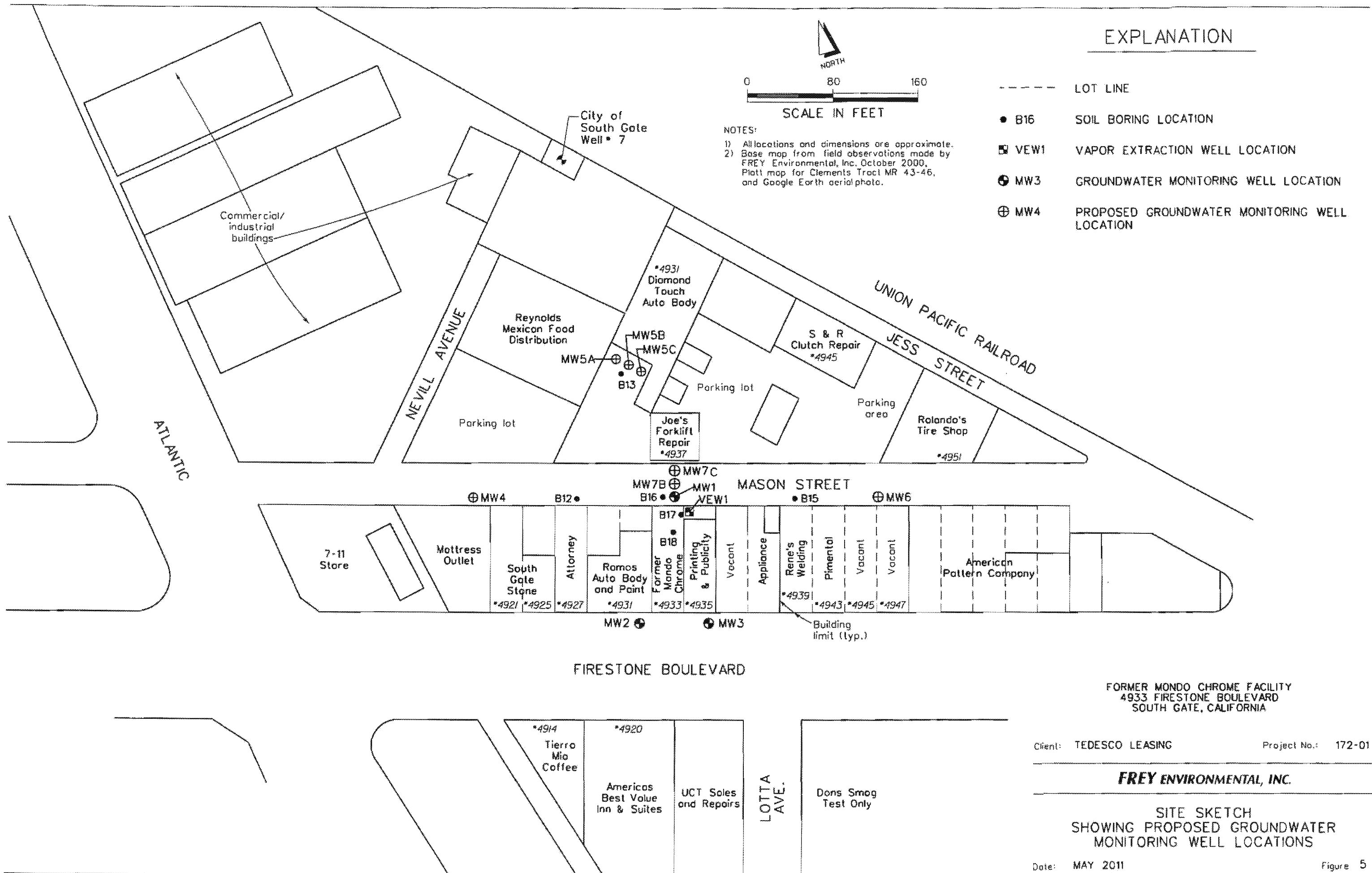
SITE SKETCH  
SHOWING CONCENTRATIONS OF CHLORINATED  
VOLATILE ORGANIC COMPOUNDS AND  
SELECTED METALS IN SOIL SAMPLES

Date: MAY 2011

Figure 3







FORMER MONDO CHROME FACILITY  
4933 FIRESTONE BOULEVARD  
SOUTH GATE, CALIFORNIA

Client: TEDESCO LEASING

Project No.: 172-01

**FREY ENVIRONMENTAL, INC.**

SITE SKETCH  
SHOWING PROPOSED GROUNDWATER  
MONITORING WELL LOCATIONS

Date: MAY 2011

Figure 5

**APPENDIX A**

**RWQCB LETTER DATED JANUARY 26, 2011**



# California Regional Water Quality Control Board

## Los Angeles Region



Shirley S. Adams,  
Regional Secretary for  
Environmental Affairs

320 W. 4th Street, Suite 200, Los Angeles, California 90013  
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: <http://www.waterboards.ca.gov/losangeles>

Edmund G. Brown, Jr.  
Governor

January 26, 2011

Mr. Howard L. Kay  
Tedesco Leasing Partnership  
475 17<sup>th</sup> Street, Suite 940  
Denver, Colorado 80202

Certified Mail  
Return Receipt Required  
Claim No. 7009 0820 0001 6811 9961

**SUBJECT: NOTICE OF VIOLATION FOR DELINQUENT TECHNICAL REPORTS  
PURSUANT TO CALIFORNIA WATER CODE SECTION 13267 ORDER**

**SITE/CASE: MONDO CHROME (FORMER) AT 4933 FIRESTONE, SOUTH GATE,  
CALIFORNIA, 90280 (SCP NO. 0760, SITE ID NO. 2043G00)**

Dear Mr. Kay:

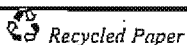
The California Regional Water Quality Control Board (Regional Board), Los Angeles Region, is the State regulatory agency with primary responsibility for the protection of groundwater and surface water quality for all beneficial uses within major portions of Los Angeles and Ventura Counties, including the referenced site. To accomplish this, the Regional Board issues investigative orders authorized by the Porter Cologne Water Quality Control Act (California Water Code [CWC], Division 7).

The Regional Board issued a California Water Code (CWC) Section 13267 Order (Order) dated February 19, 2008 (copy attached) directing you to conduct a Phase I assessment, soil vapor survey, soil and groundwater assessment and groundwater monitoring at the site. You were required to document your efforts and submit technical reports to the Regional Board. In response to the Order, your environmental consultant Frey Environmental, Inc. (Frey) submitted a groundwater monitoring report dated May 5, 2008 to the Regional Board. On June 5, 2008, Regional Board staff left you a telephone message informing you that you were delinquent in submitting the remaining technical reports required in the Order. In a meeting held on June 25, 2008, Regional Board staff discussed with you the site status and Regional Board requirements. Subsequently, in an e-mail dated July 14, 2008, Frey provided an outline of technical reports planned to be submitted to the Regional Board by September 11, 2008. In telephone conversations on June 29, 2009 and July 1, 2009, Regional Board staff again informed you of your obligation under the Order to conduct the work and to submit the reports to the Regional Board.

To date, the Regional Board has not received the required documents. You are hereby notified that you are in violation of the CWC Section 13267 Order issued on February 19, 2008 by the Regional Board Executive Officer, by failing to provide the following:

1. A Phase I Report, due March 28, 2008;
2. A Soil Vapor Survey Workplan, due March 28, 2008;
3. A Soil Investigation Workplan due March 28, 2008;
4. A Groundwater Investigation Workplan, due March 28, 2008; and

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Mr. Howard L. Kay  
Tedesco Leasing Partnership  
SCP No. 0760

- 2 -

January 26, 2011

5. Groundwater Monitoring Reports due quarterly, the first report was due April 15, 2008.

You are hereby notified that you have violated CWC section 13267 by failing to submit the technical report, workplans and quarterly groundwater monitoring reports according to the schedule and requirements specified in the Order dated February 19, 2008. You are required to comply with the Order immediately.

Section 13267 of the CWC provides the Regional Board the authority to require, under penalty of perjury, all needed technical and monitoring program reports for investigating the quality of any waters of the State.

Pursuant to section 13268 of the CWC, you are now subject to the imposition of civil liability penalties by the Regional Board in an amount up to one thousand dollars (\$1,000) for each day that you are out of compliance with the Order. The matter may be referred to the Attorney General for further enforcement. The Regional Board reserves its right to take any further enforcement action authorized by law.

If you have any questions, please contact Adnan Siddiqui at (213) 576-6812 ([asiddiqui@waterboards.ca.gov](mailto:asiddiqui@waterboards.ca.gov)) or Dr. Arthur Heath at (213) 576-6725 or ([aheath@waterboards.ca.gov](mailto:aheath@waterboards.ca.gov)).

Sincerely,



Paula Rasmussen, Chief  
Compliance and Enforcement Section

Attachments: CWC 13267 Order dated February 19, 2008



# California Regional Water Quality Control Board

## Los Angeles Region



Recipient of the 2001 Environmental Leadership Award from Keep California Beautiful

Linda S. Adams  
Agency Secretary

320 W. 4th Street, Suite 200, Los Angeles, California 90013  
Phone: (213) 576-6600 FAX: (213) 576-6640 - Internet Address: <http://www.waterboards.ca.gov/losangeles>

Arnold Schwarzenegger  
Governor

February 19, 2008

Mr. Howard L. Kay  
Tedesco Leasing Partnership  
475 17<sup>th</sup> Street, Suite 940  
Denver, CO 80202

Certified Mail  
Return Receipt Requested  
Claim No. 7006 3450 0002 4641 9746

**CALIFORNIA WATER CODE SECTION 13267 ORDER - REQUIREMENT FOR SITE ASSESSMENT AND GROUNDWATER MONITORING, MONDO CHROME (FORMER) AT 4933 FIRESTONE, SOUTH GATE, CALIFORNIA, 90280 (SCP NO. 0760, SITE ID NO. 2043G00)**

Dear Mr. Kay:

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) is the public agency responsible for the protection of ground and surface water quality for all beneficial uses within Los Angeles and Ventura Counties. The Regional Board has provided regulatory oversight of the Former Mondo Chrome property (Site) located at 4933 Firestone Boulevard in South Gate, California, under its Site Cleanup Cost Recovery program, since 1998. The Regional Board understands that the Tedesco Leasing Partnership is the current fee title holder for the subject Site.

Regional Board staff has performed a cursory review of the file and a review of the November 18, 2001 *Additional Soil and Groundwater Investigation Former Mondo Chrome Facility* report and the June 9, 2003 *Groundwater Monitoring Well Sampling Second Quarter 2003* report prepared by Frey Environmental, Inc. Based on this information, Regional Board staff has made the following findings.

The site was used as a machine shop between 1972 and 1982 and as an ornamental chrome electroplating business between approximately 1982 through 1990. In 1990, the Los Angeles County Department of Health Services, Hazardous Material Control Program performed an emergency response for improper storage of hazardous materials and use of leaky storage vessels. Subsequent Site investigations in 1992, 1994, 1996, 1998, and 2001 have involved 27 soil and groundwater borings at 18 locations that were defined by previous use or storage of hazardous materials (chrome/nickel/alkaline metal solutions, nickel/chrome sludge, alkaline cleaner, and cyanide). Hand auger, direct push, and hollow stem auger drilling methods were used to obtain soil samples at the ground surface and from deeper intervals. The reported maximum soil concentrations were: total chromium (399 milligrams per kilogram [mg/kg]), hexavalent chromium (18.1 mg/kg), cadmium (8.3 mg/kg), and tetrachloroethylene (PCE 41 mg/kg). Groundwater samples were obtained using hydropunch methods (B12, B13, B15, B17) and from wells MW-1, MW-2, and MW-3. Groundwater analytical results were reported in Site investigation reports and quarterly monitoring reports (1998 through 2003). The maximum groundwater concentrations were: total chromium (9,270 micrograms per liter [ $\mu\text{g/L}$ ]), cadmium (6  $\mu\text{g/L}$ ), PCE (707  $\mu\text{g/L}$ ), and trichloroethylene (TCE 1,000  $\mu\text{g/L}$ ).

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Two soil vapor extraction (SVE) pilot tests were conducted in 1996 in the former processing room. The maximum volatile organic compound (VOC) concentrations were: PCE (32.8 parts per million per volume [ppmv]), TCE (26.0 ppmv), and benzene (1.32 ppmv).

The Site is located within the Central Basin Pressure Area of the Coastal Plain of Los Angeles County. In the Central Basin Pressure Area, the aquifers are confined by numerous aquicludes including the Bellflower aquiclude which consists of low permeability silts and clays that separates near surface water from the deeper water bearing zones. Beneath the Site, the Bellflower aquiclude is reported to be between depths of 10 and 70 feet below the ground surface (bgs). The Exposition aquifer is reported to underlie the Bellflower aquiclude between depths of 70 and 210 feet bgs.

The soil and groundwater beneath the Site has been characterized by data from 18 borings that have been drilled to a maximum depth of 100 feet bgs. Sand and silty sand generally underlie the Site although discontinuous lenses of silt and clay have been logged. Currently there are three groundwater monitoring wells at the Site. The depth to groundwater is about 40 feet bgs and the flow direction was consistently north-northwest between 1998 and 2003.

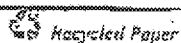
The nearest water supply well is 320 feet north-northwest of the Site (Well No. 7, operated by the City of South Gate Water Department). It was shut down prior to 1998 due to the presence of hexavalent chromium. Well No. 7 was drilled in 1935 to a depth of 863 feet bgs and was perforated between 500 and 600 feet bgs (Hollydale - Jefferson - Lynwood aquifers).

Based on the file review, Regional Board staff has determined that soil and groundwater beneath the Site are impacted by VOCs and metals and a complete delineation of these constituents of concern (COCs) in all media (soil, vapor, water) is warranted. California Water Code (CWC) §13267 provides the Regional Board with the authority to require the property owner to furnish, under penalty of perjury, the necessary technical reports to define impacted soil and groundwater. Therefore, pursuant to CWC §13267 the Tedesco Leasing Partnership is required to prepare the following technical reports:

1. **Phase I Report** – Prepare a Phase I report that identifies current and past operators and hazardous waste generators at the Site. A list of all chemicals that were historically used and stored should be included. The Phase I Report is due to the Regional Board on or before March 21, 2008.
2. **Soil Vapor Survey** – Conduct a soil vapor survey across the site to identify all areas impacted with VOCs. In addition, evaluate the potential threat to human health by the mobilization of VOCs into indoor air. Subslab vapor sampling beneath the existing building(s) must be included. The Workplan for a Soil Vapor Survey is due to the Regional Board on or before March 28, 2008.
3. **Soil and Groundwater Investigation** – The current understanding of the constituents of concern (COCs) in onsite soil is incomplete. Additional soil sampling and analysis for all identified chemicals needs to be conducted in all areas where current and past operators and generators used these chemicals. A Workplan for a Soil Investigation is due to the Regional Board on or before March 28, 2008.

The VOC concentrations in MW-1 indicate that their source is the former Mondo Chrome Site and that the downgradient extent of the plume has not been delineated. Additional groundwater

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characterization is needed to completely delineate the horizontal and vertical extent of the plume. A Workplan for a Groundwater Investigation is due to the Regional Board on or before March 28, 2008.

4. Resume groundwater monitoring at wells MW-1, MW-2, and MW-3 on a quarterly basis. Resurvey and redevelop the wells if necessary. The program should include:
  - a. Groundwater analysis for VOC's by EPA Method 8260B, cadmium and total chromium by EPA Method 200.7, hexavalent chromium by EPA Method 218.6, nickel by EPA Method 6020, cyanide by EPA Method 335.2, 1,2,3-trichloropropane by EPA Method 8260 SIM mode, 1,4-Dioxane by EPA Method 8270C, pH, and color.
  - b. Quarterly groundwater monitoring reports are due to the Regional Board in accordance with the following schedule:

<u>Groundwater Monitoring Period</u>	<u>Report Due Date</u>
January to March	April 15
April to June	July 15
July to September	October 15
October to December	January 15

The first report is due on or before April 15, 2008.

- c. Notification to the Regional Board at least 10 days prior to the start of any field work.

Pursuant to State Water Resources Control Board Resolution No. 92-49, under Section 13304 of the California Water Code, all fieldwork related to well installation must be conducted by, or under the direct responsible supervision of a registered geologist or licensed civil engineer. All technical documents submitted to the Regional Board must be reviewed and signed and/or stamped by a California registered geologist, a California registered certified specialty geologist, or a California registered civil engineer with at least five years of hydrogeologic experience.

The California Business and Professions Code Sections 6735, 7835, 7835.1 require that engineering and geologic evaluations and judgments be performed by or under the direction of a California registered geologist or registered civil engineer. A statement is required in the report that the registered professional in responsible charge actually supervised or personally conducted all the work associated with the project.

Pursuant to CWC §13267, the property owner must submit the required technical reports by the indicated due dates. Furthermore, pursuant to 13268 (b)(1) of the CWC, failure to submit the required reports may result in the imposition of civil liability penalties by the Regional Board of up to \$1,000 per day for each day the report is not received after the indicated due date (for each report). These civil liabilities may be assessed by the Regional Board for failure to comply, beginning with the date that the violations first occurred and without further warning.

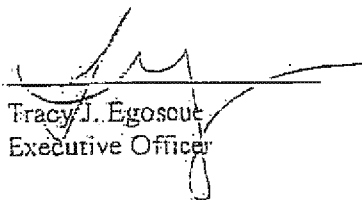
Mr. Howard Kay  
Tedesco Leasing Partnership

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February 19, 2008

If you have any questions, please contact Dr. Arthur Heath at (213) 576-6725, Mr. Adnan Siddiqui at (213) 576-6812 or Mr. Daniel R. Gillette at (213) 576-6751.

Sincerely,



Tracy J. Egoscue  
Executive Officer

cc: Joe Frey, Frey Environmental, Inc.  
Nancy Matsumoto, Water Replenishment District of Southern California

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**APPENDIX B**  
**HEALTH AND SAFETY PLAN**

**HEALTH AND SAFETY PLAN**

**FORMER MONDO CHROME  
4933 FIRESTONE BOULEVARD  
SOUTH GATE, CALIFORNIA**

**PROJECT NO. 172-01**

**FREY ENVIRONMENTAL, INC.  
2817 A Lafayette Avenue  
Newport Beach, CA 92663**

**May 25, 2011**

**U.S.A. Number\_\_\_\_\_**

**Reviewed by:**

_____ Project Manager	_____ Date
_____ Site Geologist	_____ Date
_____ Field Technician	_____ Date
_____ Driller	_____ Date
_____ Driller Assistant	_____ Date

## **1.0 INTRODUCTION**

FREY Environmental, Inc. (FREY), has been retained by the Kay Companies and Tedesco Leasing to conduct a groundwater investigation at 4933 Firestone Boulevard in South Gate, California (Site).

This document presents the health and safety procedures that are intended to guide field activities at the Site. The provisions of this plan apply to employees of FREY and its subcontractors. Regulatory agencies are expected to observe the safety rules and regulations established by their respective organizations in addition to the requirements of this document.

## **2.0 PROJECT SAFETY PERSONNEL**

### **2.1 SAFETY PERSONNEL**

FREY has been responsible for the preparation of this health and safety plan, and is to monitor compliance of its personnel, those of its subcontractors and visitors to the Site, with its provisions. FREY personnel responsible for the distribution of this health and safety plan and for the compliance audit are the Site Safety Officer and/or Project Manager.

The Project Safety Officer is responsible for delivering the plan and any addenda to the Project Manager and for advising the Project Manager and Site Safety Officer on health and safety provisions of this plan, suspend work or modify work practices for safety reasons, and to dismiss individuals whose conduct on site endangers the health and safety of others.

The Project Manager is responsible for distributing the plan to all FREY field personnel and to an authorized representative of each firm contracted to assist with on-Site work. The Project Manager is also responsible for implementing the provisions of this plan and its addenda. Implementation will include training of field personnel involved with the project, provision for the appropriate safety equipment, and that the required health and safety documents are submitted to the Project Safety Officer.

The Site Safety Officer is responsible for assisting the Project Manager with on-Site implementation of this Site safety plan. His responsibilities include: 1) maintaining safety equipment supplies, 2) performing air quality measurements as required or needed, 3) directing decontamination operations and emergency response operations, 4) setting up work zone markers and signs if such zones are specified in the Site safety plan, and 5) reporting all accidents, incidents, and infractions of safety rules and requirements to the Project Manager and the Project Safety Officer.

The Site Safety Officer has the authority to suspend work any time he determines that the provisions of the Site safety plan are inadequate to provide a working environment conducive to worker safety and he is to inform the Project Manager of individuals whose on-Site presence jeopardizes their health and safety or the health and safety of others.

FREY Environmental, Inc. phone numbers

Project Safety Officer/Manager	Evan Privett	(949) 723-1645
Site Safety Officer	Josh Moeller	(949) 370-1086
and Field Personnel	Vitelio Rameriz	(949) 456-5075

### 3.0 WORK DESCRIPTION

- Cut the concrete or asphalt in 7 locations
- Drill and sample 7 soil borings to depths between 60 feet bgs and 125 feet bgs;
- Collect soil samples at various depth intervals;
- Construct groundwater monitoring wells in each boring;
- Resurface each of the 4 boring locations to match the surrounding surface;
- Develop each groundwater monitoring well;
- Purge and sample each of the 7 newly installed groundwater monitoring wells;

### 4.0 HAZARD ASSESSMENT

According to available information, the chemical concern most likely to be encountered during the field work appears to be chlorinated solvents. This health and safety plan will use perchloroethylene (PCE) as the contaminant of concern based on its lower health and safety threshold than many other chlorinated solvents detected during previous investigations. The overall hazard to FREY personnel and associated subcontractors is estimated to be low. The following is a brief description of the potential hazards associated with these compounds:

#### 4.1 HAZARDOUS CHEMICAL COMPOUNDS

PCE has been tentatively classified as a known or suspected human or mammalian carcinogen. Direct skin or eye contact or exposure to high vapor concentrations may result in dermatitis, eye and/or lung irritation; acute overexposure may cause central nervous system depression, liver and/or kidney damage, convulsions, coma, and even death. Symptoms can include headache, nausea, dizziness, increased perspiration, staggering gait, and slowing of mental ability.

- A. Anticipated Concentrations: Based on previous investigations, concentrations of PCE are not anticipated to exceed 1 part per million. The soil vapor probes will be installed by advancing a hollow steel rod. Minimal amounts of soil will be disturbed using this installation technique which will minimize worker exposure to soil vapor.
- B. Exposure Routes: Inhalation, dermal/eye contact, absorption

C. PCE Exposure Limit -100 ppm TWA/200 ppm Ceiling (OSHA PEL). 150 ppm IDLH.

#### **4.2 INHALATION HAZARD**

The major toxicity concern is PCE. PCE has a Threshold Limit Value (TLV) of 25 ppm, which is defined as the average exposure for a period of 8 hours per day, 5 days per week that is believed will not cause harm to worker health.

Vapor concentrations expected to encountered during soil vapor probe installation are not expected to exceed recommended exposure limits, based on available Site information. However, respiratory protection (level C) must be used if concentrations reach 10 ppm as measured with a photoionization detector (PID).

#### **4.3 DERMAL EXPOSURE HAZARD**

Contact of sufficient duration to cause significant absorption of toxic components is highly unlikely. Repeated daily or prolonged contact with excavated objects or soils may be expected to defat the skin and perhaps, over a long period of time, lead to irritation and dermatitis. For this reason, direct contact with highly contaminated objects or soils should be avoided when possible by wearing gloves. However, if prolonged skin contact does occur, the exposed areas shall be washed with soap and water and rinsed thoroughly.

#### **4.4 EXPLOSION HAZARD**

PCE is not susceptible to explosions except under extreme temperatures which will not be attained during Site work. Explosive Limits have been listed as not applicable for PCE.

#### **4.5 OTHER HAZARDS**

Sufficient attention must be paid to other possible hazards on the Site including but not limited to:

- The drilling rig. Hazards associated with drill rig use include noise, falling objects, and weight. The operator must wear hearing protection, steel toed work boots and gloves.
- Improper use of hand tools. Hand tool use includes the manual installation of the soil vapor probes using a jackhammer. Hazards associated with the use of this tool include noise and weight. The operator must wear hearing protection, steel toed work boots and gloves.
- Tripping on objects. One soil boring will be located inside the building. The building consists of a machine shop which may contain several machines, tools and other items considered to be tripping hazards. The access to the soil boring location may require clearance of an access path and will be discussed with the occupant prior to entry.

- Dehydration or sun stroke of the personnel. The work is anticipated to be conducted in the summer when temperatures may be high which increases the chance for a heat related condition to occur.

If an employee's pulse rate exceeds the maximum age adjusted heart rate ( $0.7(220-AGE)$ ), and /or oral temperature exceeds  $100.4^{\circ}\text{F}$ , the employee shall be required to stop work and rest or move to an air-conditioned room. The affected employee may be allowed to return to work after his / her pulse rate has dropped below 100 beats per minute. Fluids shall be provided and rest breaks will be taken. The frequency of breaks will increase with the temperature. Such items as cooling vests, portable fans and breaks in air-conditioned areas shall be used if necessary.

- Lack of oxygen through blockage of face masks. The area of exposure is limited to a four inch circular hole (0.087 square feet) cut through concrete. Thus, the use of respirators is extremely unlikely. However, personnel on Site will have new respirator cartridges which have been factory certified for reliability and quality.

## **5.0 GENERAL HEALTH AND SAFETY REQUIREMENTS**

### **5.1 SAFETY ORIENTATION MEETING**

All field personnel should attend a safety orientation meeting before commencing the field work. The meeting will be scheduled and conducted by the project manager or the Site safety officer. The meeting will include presentation of the site safety plan.

### **5.2 WORK ZONE**

A restricted zone will be maintained to a distance of 25 feet from the work activity area if significant contamination is detected in the field. Significant soil contamination is defined in this case to be soil which registers in excess of 10 ppm on the photoionization equipment. Protective clothing and equipment, as described in subsection 5.3 are to be worn by all personnel working within the restricted zone.

The staff geologist will be responsible from preventing access to the area of investigation. The restricted work zone (area of investigation) will be coned off with the staff geologist located on the outside of the coned area to prevent access into the restricted zone. The decontamination area will be located outside the restricted zone and will consist of two 5-gallon buckets filled with tap water and one 5-gallon bucket filled with deionized water. The first bucket in series will contain TSP with tap water, the second bucket will contain tap water and the third bucket will contain the deionized water.

Communication will be by verbal commands when applicable and by cell phone when distances exceed those applicable through verbal communication.

### **5.3 PROTECTIVE EQUIPMENT AND CLOTHING**

Protective clothing required to be on Site is limited to level C and level D as defined by the EPA Office of Emergency and Remedial Response. Levels C and D were selected based on the knowledge that exposure pathways are anticipated to be minimal and are realistically limited to: 1) vapors emanating through 8-inch diameter boreholes, 2) over 20,000 hours of SVE was conducted after PCE was no longer used at the Site, and; 3) the handling of each sample tube (2-inch in diameter and 6-inches long).

#### **5.3.1 EQUIPMENT REQUIRED FOR FIELD PERSONNEL (LEVEL D)**

- Full length trousers, shirts
- Leather work shoes or Safety Boots
- Hard hats when near within the tower height distance of the direct push drill rig
- Gloves, Glasses or Goggles

#### **5.3.2 EQUIPMENT REQUIRED TO BE AVAILABLE ON SITE**

- Four respirators (North 7700 Series Half Mask Facepiece)
- Disposable Coveralls (Tyveks)
- Gloves (Montgomery Premium Nitrile)
- First-aid kit
- Fire extinguisher
- A vehicle must be kept on Site when personnel are working for the transport of slightly injured personnel to the hospital. Severely injured personnel must only be transported by paramedics.

#### **5.3.3 RESPIRATOR USAGE**

The Project Safety Officer and/or the Project Manager is responsible for deciding if respirators should be used. Usage would be based on PID measurements. The TLV concentrations as noted in section 4.1 should be used as the critical concentration. If concentrations of organic vapors in the ambient air (as measured by the PID) exceed 25 ppm, the field personnel must move out of the area. If the concentration remains at or above the TLV for more than 5 minutes, the Project Safety Officer and/or the Project Manager should be contacted and a decision made regarding whether to proceed with the work wearing respirators and extending the restricted work zone. Cartridges for the respirators must be replaced daily or when break-through occurs, whichever occurs first.

#### **5.4 WORK IN MASON STREET**

Four groundwater monitoring wells will be installed in Mason Street. Traffic control will be constructed per the attached WATCH Manual guidelines. In addition, all conditions listed in the encroachment permit will be followed during the construction and sampling of groundwater monitoring wells.

#### **6.0 ORGANIC VAPOR MONITORING**

The organic vapor concentrations (as measured by the PID) in the breathing zone of the individual working closest to the vapor source will be monitored as needed. Respirators must be worn if the concentrations exceed 10 ppmv as measured with the PID.

#### **7.0 EMERGENCY RESPONSE PROCEDURES**

##### **7.1 PHYSICAL INJURY**

In the event of an accident resulting in physical injury, apply first aid. Severely injured personnel are to be transported only by paramedics and/or by ambulance personnel. At the hospital, a physicians attention is mandatory regardless of how serious the injury appears.

The Project Manager is to be notified by the Site Safety Officer, as soon after the injury as practical, regarding the nature of the accident. A written report is also to be prepared and submitted by the Site Safety Officer.

##### **7.2 FIRE, EXPLOSION, AND PROPERTY DAMAGE**

In the event of a fire or explosion, notify the Fire department immediately by dialing 911. The Project Manager is to be notified by the Site Safety Officer as soon as practical and a written report prepared.

##### **7.3 DECONTAMINATION PROCEDURES**

Decontamination procedures will consist of washing down the exposed skin area in the event that chemical exposure. The affected area of exposure will be washed with TSP and water then rinsed with a deionized water rinse. Personnel protective equipment was described in 5.3.1. Drilling equipment will be decontaminated with a three bucket system. The first bucket will contain TSP and tap water followed by a tap water rinse and a deionized water rinse. All down drilling equipment will be dried with towel used one single time. Discarded towels will be placed in a plastic bag and washed at a later date.

The rest area will be anywhere outside of the restricted zone. Worker fatigue is not anticipated due to the short term nature of this job.

All decontamination water will be placed in a Department of Transportation approved 55-gallon drum and disposed of at Crosby and Overton, a State of California licensed hazardous waste recycling facility in Long Beach, California.

#### **7.4 TRAINING**

All on Site personnel have received 40 hour HAZWOPER training. 8-Hour HAZWOPER Refresher training certificates have been attached for FREY employees who will be on Site. Employees are generally fit tested during each 8-hour refresher course. Employees are also subjected to medical exams (physicals) on a yearly basis.

#### **7.5 MEDICAL MONITORING**

Personnel will be observed in the field by the Staff Geologist for signs of fatigue or chemical exposure. Visual observation is sufficient due the minor amounts of chemicals present in subsurface soils at the Site, minimal exposure pathways as discussed Section 5.3, and the short term duration of the project (one day).

#### **7.6 EMERGENCY TELEPHONE NUMBERS.....911**

#### **7.7 HOSPITAL ADDRESS AND ROUTE**

**See attached figure**

St Francis Medical Center  
3630 East Imperial Highway  
Lynwood, CA 90262  
(310) 900-8900

#### **8.0 PROJECT PERSONNEL**

Project Safety Officer/Manager

Evan Privett

Site Safety Officer  
and Field Personnel

Josh Moeller  
Vitelio Rameriz

Drilling Contractor

JDK Drilling

**APPENDIX C**  
**FIELD PROCEDURES**

## **C.1 SOIL BORING SAMPLING PROCEDURES**

1. Soil borings will be drilled with a truck-mounted, drilling rig equipped with 8-inch outside diameter hollow stem augers.
2. The augers will be steam-cleaned prior to use at the Site and between each boring.
3. Soil descriptions, sample type and depth, and related drilling information will be recorded on a boring log and reviewed by a State-Registered Engineering Geologist from FREY Environmental, Inc.
4. Soil samples will be collected using a split-spoon modified California sampler. Samples will be collected directly from the split-spoon sampler following retrieval.
5. The sampler will be cleaned between sample intervals using a brush and tap water followed by a brush and TSP solution, a tap water rinse, and deionized water rinse. The sampler will be dried by air or with a paper towel prior to sampling.
6. Soil samples will be collected in 2-inch inside diameter and 6-inch long stainless steel or brass tubes. Three six inch tubes are generally enclosed in the sampler. Prior to initial use, the sample tubes will be cleaned, rinsed, and dried using the procedures described above in Item 5.
7. In the event that a soil sample exhibits an OVA reading greater than 5 ppm, then the split-barrel modified California sampler will be opened and samples will be collected using disposable "En Core" samplers (EPA 5035). The disposable "En Core" sampler will be placed into a stainless steel "En Core" T-handle sampling tool. Using the T-handle, the disposable "En Core" sampler will be pushed into the sample core, and a soil sample will be collected.
8. Following sample collection, the disposable "En Core" sampler will be capped with an "En Core" push end cap. Each sample will be labeled with the sample number and project number.
9. The sampler will be driven into the soil using a 140-pound hammer dropping approximately 30 inches. The number of blows (blow count) required to advance the sampler 12 inches was recorded on the boring log for each 6-inch increment.
10. Following retrieval of the sampler, one of the two lower 6-inch tubes within the sampler will be removed from the sampler, and given sample recovery, the ends covered with aluminum foil and capped with PVC end caps. Each sample will be labeled with the sample number, sample depth, date, and project number.
11. The soil in the remaining sample tubes will be used to describe the soil and for field head space analysis.

## **FIELD PROCEDURES (cont)**

12. The samples within the brass tubes will be placed in bags, stored, and cooled in an ice chest.
13. The samples will be delivered to the laboratory following collection. Sample handling, transport, and delivery to the laboratory are documented using Chain-of-Custody procedures, including the use of Chain-of-Custody forms.

### **C.2 GROUNDWATER MONITORING WELL INSTALLATION PROCEDURES**

1. The groundwater monitoring wells will be constructed of 2-inch diameter flush-jointed, threaded PVC. Slot openings will be 0.01 inch.
2. Wells MW4, MW5A and MW6 will be screened between 35 feet bgs and 60 feet bgs. Wells MW5B and MW7B will be screened between 90 feet bgs and 95 feet bgs. Wells MW5C and MW7C will be screened between 120 feet bgs and 125 feet bgs. Blank casing will be placed from the top of the screen to just below the ground surface.
3. The groundwater monitoring well casing will be constructed inside the 8-inch hollow stem augers.
4. The annulus around the screened interval of the wells will be backfilled with a screened-washed sand. Sand backfill material will be placed to a depth of approximately 2 feet above the screened section of the well.
5. For wells MW4, MW5A and MW6, a bentonite seal approximately three feet thick will be placed immediately above the sandpack. The annulus above the bentonite seal will backfilled with a bentonite grout.
6. Bentonite pellets will serve as the well seal for wells MW5B, MW5C, MW7B and MW7C. Bentonite pellets will be placed on top of the sandpack and extend to the approximate groundwater surface. A bentonite based grout will be placed on top of the bentonite pellets and extend to 1 foot bgs.
7. A traffic-rated well box will be placed above the well casing and set in concrete. The well box will be set about 1 inch above the ground surface to minimize surface water infiltration.

### **C.3 WELL DEVELOPMENT PROCEDURES**

1. Groundwater monitoring wells will be developed with an electric submersible pump no sooner than three days after installation.
2. Temperature, pH, and conductivity will be measured with a Conductivity/Temperature/pH instrument at approximate two-minute intervals during well purging.
3. Well purging will continue until the conductivity, temperature and pH readings are approximately stable.

### **C.4 GROUNDWATER SAMPLING**

1. Prior to purging groundwater monitoring wells, the well head condition will be inspected for evidence of tampering or damage.
2. Prior to purging the wells, the water level in the well will be recorded using a conductance probe. In addition, a clear bailer sample will be taken and visually inspected for turbidity and the presence of free product.
3. Groundwater monitoring wells are generally purged of at least twice the water content of the casing and filter pack, or five well casing volumes, whichever is the greater volume. The following techniques can be employed for well purging:
  - A) A bailer:  
A bailer with diameter slightly less than the casing internal diameter, is lowered into the well. After the bailer has been completely immersed in the groundwater, it is retracted. The process is repeated until purging of the well is accomplished.
  - B) A stainless steel submersible pump:  
A stainless steel submersible pump is lowered into the well. Pumping episodes are repeated until complete purging of the well is accomplished. The pump is then removed from the well.
4. The wells will be allowed to recover to 80% of their original volume, or for a maximum period of 3 hours.
5. Free product, if present, will be bailed from the monitoring wells prior to undertaking sampling procedures.
6. Groundwater samples will be collected using a stainless steel bailer held by dedicated nylon line.
7. The water level and depth to the bottom of the well will be measured using a conductance probe and a fiber measuring tape.

### **FIELD PROCEDURES (cont)**

8. All items entering the well—tapes, conductance probe, bailers will be cleaned prior to use and between sampling periods.
9. Four samples will be collected from each monitoring well and placed into three EPA approved, zero head space, 40 mL vials and one 500 mL.
10. Each sample will be labeled with the job number, time and date.
11. The samples will be placed in a bag, and into an ice chest, and cooled following collection.
12. The samples will be delivered to the laboratory following collection. Sample handling, transport, and delivery to the laboratory will be documented using chain of custody procedures and appropriate Chain-of-Custody forms.
13. Any additional samples may be used for field analysis; pH, dissolved oxygen, redox potential, temperature, and conductivity.
14. Free product and/or contaminated groundwater purged from the monitoring wells during groundwater sampling will be stored at the site in DOT approved 55 gallon drums, and labeled.
15. Uniform Hazardous and Non-Hazardous Waste Manifests will be prepared for the transportation and disposal of the removed free product and/or purged contaminated groundwater.